

ECONOMIC DEVELOPMENT AND CULTURAL CHANGE

VOLUME VIII • NUMBER 1 • OCTOBER 1959

	<i>The Long-Run Terms of Trade between Agriculture and Manufacturing</i>	
	THEODORE MORGAN	1
	<i>River Valley Projects in India: Their Direct Effects</i>	
	K. WILLIAM KAPP	24
	<i>Considerations of an International Administrative Service</i>	
	GEORGES D. LANDAU	48
	<i>The Interpretation and Use of Japanese Foreign Trade Statistics</i>	
	LEON HOLLERMAN	69
	<i>Some Notes on Law and Change in North India</i>	
	BERNARD S. COHN	79
	<i>America's Future Economic Problems</i>	
	CONO CASELLA	94
REVIEWS	<i>Population Growth and Economic Development</i>	
	HARVEY LEIBENSTEIN	101
	<i>Portuguese Economic Development</i>	
	ROBERT S. SMITH	106
	<i>Books Received</i>	111

RESEARCH CENTER IN ECONOMIC DEVELOPMENT AND CULTURAL CHANGE
THE UNIVERSITY OF CHICAGO

ECONOMIC DEVELOPMENT AND CULTURAL CHANGE

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Economic Development and Cultural Change. Published quarterly: October, January, April, July by The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. Second-class postage paid at Chicago, Illinois post office.

Editorial correspondence and manuscripts should be sent to Research Center in Economic Development and Cultural Change, 1126 East 59th Street, Chicago 37, Illinois

Advertising correspondence should be addressed to Journals Advertising, The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois.

Subscription correspondence should be sent to the publisher, The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois. The Cambridge University Press, Bentley House, 200 Euston Road, London, N. W. 1, England, is an authorized agent for the British Commonwealth, except North America and Australasia.

Change of Address. Subscribers are requested to notify the Press and their local postmaster in advance of change, giving both new and old addresses.

Subscription rates are: individual subscribers, \$3.00 per year; libraries or institutions, \$5.00 per year. Multiple year subscriptions are available.

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THE LONG-RUN TERMS OF TRADE BETWEEN AGRICULTURE AND MANUFACTURING*

Theodore Morgan
The University of Wisconsin

There is a widely held opinion that the terms of trade between agriculture and manufacturing industry have been shifting historically to the advantage of manufacturing; and that this shift is what should be expected, both in the past and in the future. The alleged trend is used as an argument for industrialization in underdeveloped countries, or for "balanced development", at the expense of agricultural development.

The first section below discusses the United Kingdom data on which this opinion has mainly been based, criticizes it from the point of view of its use, and adds data for an additional time period and for six other countries. Part II comments on several doctrines that imply adverse, and perhaps worsening, terms of trade for producers of primary products must be expected.

I

Since non-agricultural products are of minor significance in the primary product series below, the terms "primary products" and "agricultural products" are used here interchangeably. The charts shown below on the terms of trade between agricultural and manufactured products are always in the form of prices of agricultural products divided by prices of manufactured products, so that a rise in any series means that agriculture is gaining a price advantage.

The British Data

The most widely known data on the terms of trade between primary and manufactured products are in the League of Nations' Industrialization and Foreign Trade,¹ reproduced and added to in the United Nations' Relative Price of Exports and Imports of Under-Developed Countries.² Both studies use British data³ as a sample of prices in world trade. British data have considerable attractions for this purpose; they are

* Discussions with Professor P. T. Ellsworth have been helpful in the development of this paper. Miss Jacqueline L. Hodgson has been most effective in the work of collecting and charting the data.

1. Geneva, 1945, pp. 154-157. The main author is Folke Hilgerdt.

2. Lake Success, New York, 1949, pp. 21-24.

3. There is a minor exception. See Appendix below for brief descriptions of this and the following series.

available over a long period; Britain has had a large share of world trade; and British imports have had the convenience of being mainly primary products, its exports mainly manufactured goods. Chart 1 shows the three series of the United Nations' study.

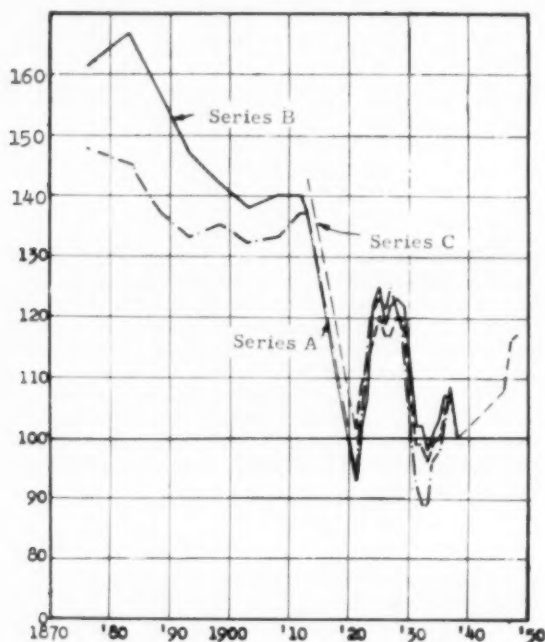


Chart 1. Terms of Trade between Primary and Manufactured Products, 1876-1948. British Data.

Chart 1 seems to show clearly that there was from 1876 on a trend of prices unfavorable to primary producers. The trend is plain despite wide price fluctuations. On the strength of this trend, predictions have been made that primary producers will in future years continue to suffer pricewise, and several theories have been elaborated as to why the trend should be accepted as a continuing fact.⁴

But the Chart 1 series are inadequate as the basis for such an interpretation on two counts. (a) First of all, data are available for a longer stretch of time, within which Chart 1's 1876 to 1948 period are only an atypical segment.⁵ Consider Chart 2, which also presents British data. Series A, for 1801 to 1953, uses the

4. See below.

5. The United Nations' *Relative Prices*, etc., grants that its series begins close to the peak for the recorded period (p. 23), and states its conclusions as applying only to the movement from the 1870's on.

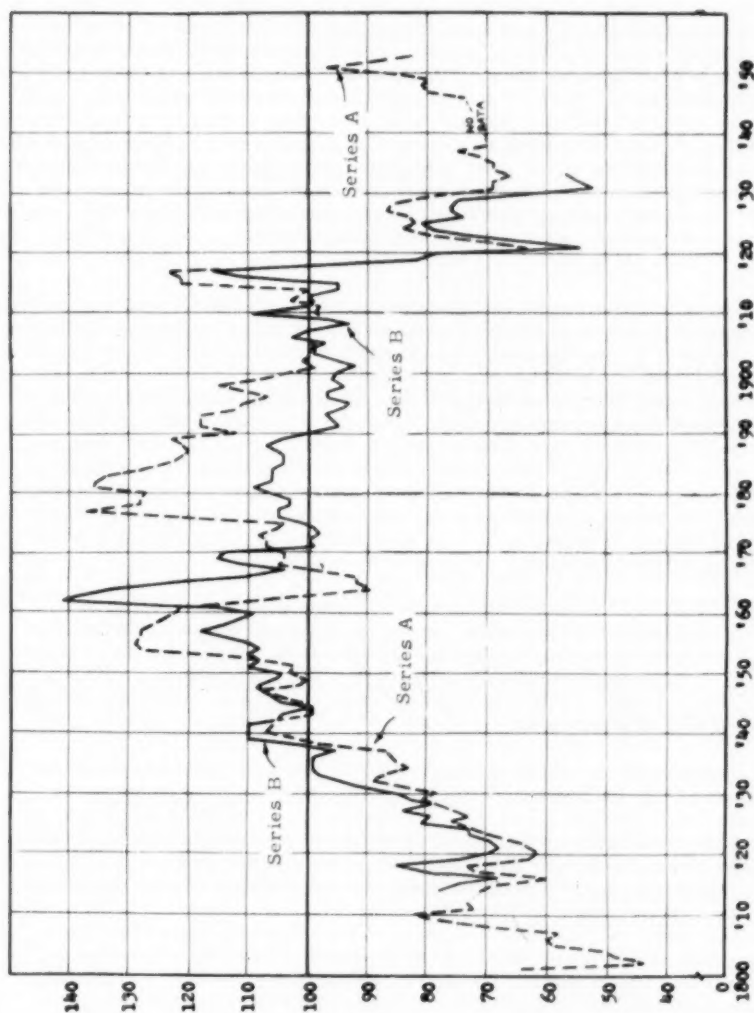


Chart 2. Terms of Trade between Primary and Manufactured Products, 1801-1933. British data.

same data as the Series A of Chart 1, 1876 to 1938, and the same sources for earlier and later years. Series B is shown as a check on Series A.

The added years entirely change the impression. The terms of trade of primary producers sharply improved from 1801 to the 1860's or 1870's, when the decline that has been so much emphasized began.⁷ One might plausibly fancy a long wave portrayed in these 153 years, but no single trend. There is marked short-term and long-term instability.⁸

(b) In addition, the British data do not measure fairly the prices received by primary producers of the world within any given span of years. Systematic bias is built into the British data in two ways, both of which increasingly understate the position of the world's primary producers as the decades go by. These two sources of bias have been pointed out elsewhere, and we can summarize the arguments briefly.

First, qualitative improvements in products are inadequately taken account of. As economic growth proceeds, these improvements take in all lines of production. Among primary products, one can readily think of the pebbles in the rice, dirt in the salt, and the uncertain condition of meat and fish in underdeveloped countries; and of the perishable foods that are not available at all. Among manufactured products the contrasts range still wider: for example, the carpenters' tools and building equipment of underdeveloped countries as contrasted with those of developed areas, or the bullock cart as contrasted with the truck, or the brick cooker as contrasted with the electric range. On the whole, I would judge that without doubt the improvements have been less in primary than in manufactured products. In the actual statistics that we have, corrections for improvements in quality are rare and incomplete;⁹ and small changes, which cumulatively are very

6. Series B is Schlote's index for the prices of primary products divided by his index for the prices of finished manufactures. Werner Schlote, *Entwicklung und Strukturwandlungen des englischen Aussenhandels von 1700 bis zur Gegenwart*, Jena, 1938; translated as *British Overseas Trade, from 1700 to the 1930's*, Oxford, 1952.

7. Suggestions on the causes of these changes, and of the changes shown in terms of trade data for six other countries, are brought together below.

8. Imlah's investigation supports the approximate accuracy of the Sauerbeck index of British wholesale primary prices used in Series A of Charts 1 and 2. (Albert H. Imlah, "Real Values in British Foreign Trade, 1798-1853", *Journal of Economic History*, November 1948, pp. 133-152.)

9. The only consistent attempt to meet the problem of continued quality improvements that I have found in the data underlying the eight charts of this paper is in the construction of part of the Indian price series (Chart 4 below).

A. N. McLeod points out that better quality secondary tertiary products can lower costs of primary producers, and so increase their real incomes, even while their terms of trade are turning against them. ("Trade and Investment in Under-developed Areas: A Comment", *American Economic Review*, June 1951, p. 414.)

R. E. Baldwin argues that omission of new commodities, or their

important, are not taken account of at all. The result is that all the data available--both the British series, and all others--understate the trend in the relative price position of primary producers.

In the second place, the British data cannot validly be used to measure the terms of trade against manufactures that primary producers experienced within their own countries. The reason is that transportation costs have been falling. During the past century and more, primary producers of the world outside of Britain have been receiving a price for their products that fell short of the price in Britain and other importing countries by a smaller and smaller amount. During the same period, primary producers of the world have been paying prices for their imports of manufactures that exceeded the prices of manufactures in Britain and other industrial countries by a smaller and smaller amount. Both distortions work in the same direction: producers of primary goods have been doing much better in the past century and more than the British data indicate.

Transportation costs have been falling because of the appearance and increasing use of more and better roads, canals (including Suez and Panama), railroads, steam-propelled ships, and trucks. Previously isolated economies and isolated kinds of production have been brought more and more into world commercial relationships. Wright generalizes that freight transportation on U. S. turnpikes and dirt road cost, in the mid-nineteenth century, "10 to 20 cents a ton mile, a rate prohibitive for long distance shipments." But railroads carried freight for long distances at 2 and 3 cents a ton mile, and canals seldom exceeded 1 cent.¹⁰ There are abundant examples of commodity prices falling in New York or in the United Kingdom, while as a result of falling shipping rates, the prices of the same commodities were rising in the regions where they were being produced.¹¹

inclusion at relatively small beginning year weights, tends to bias a price index upward, since new commodities usually fall considerably in price soon after they are introduced. ("Secular Movements in the Terms of Trade", *American Economic Review*, Papers and Proceedings, May 1955, pp. 267-268.)

Buchanan and Ellis feel that "the real weakness of the terms-of-trade basis of a supposed inferiority of primary production lies... in its failure to allow for the vast increase in the quality of manufactured goods." (*Approaches to Economic Development*, Twentieth Century Fund, New York, 1955, p. 262.)

Haberler has recently pointed out an extreme, but important, case of this distortion: "Unit value indexes of machinery represent for the most part declared values divided by weight!" (*Review of Economics and Statistics*, Supplement, February, 1958, p. 5.) Suppose that machinery price per pound remains the same while--as in fact has been happening--it is, over the decades, getting more effective per pound. Then the index is constant, but the real price is falling.

10. Chester W. Wright, *Economic History of the United States*, New York, 1949, p. 287.
11. Such examples are given in J. M. Powers, *The Purchasing Power of Gold*, Report to the Bureau of Labor, Minnesota, 1947. The years covered are 1875-1895. Ellsworth gives some striking examples for the period 1884-1903:

Just before the second World War, an average of 10 percent of the value of total world trade probably went into transportation costs.¹² The share must have been far higher a century or more earlier--the above data suggest the neighborhood of 3 to 7 times higher, or 30 to 70 percent.

The widely used British data therefore are unreliable as a measure of the long-run relative price position of primary producers of the world for the two reasons we have surveyed--the relatively short time period the British data cover, and bias due both to quality improvements (especially) in manufacturing, and to falling transportation costs.¹³

Data from Other Countries

As a check on the above reasoning, we show below in Charts 3 to 8 the prices of primary products divided by the prices of manufactures for six countries other than the United Kingdom.

Chart 3 gives two series for the United States. Series 1D¹⁴ runs from 1787 to 1953, and is for domestic wholesale prices. In this series, the data for 1787 to 1889 are mainly quotations from New York, and (because of the trend in transportation costs) understate considerably the position of the average U. S. primary producer of the included goods. Series 2C, for 1913 to 1948, is calculated from United States statistics for prices of imported primary goods and imported manufactured goods--both f.o.b. This second series seems comparatively reliable for measuring the trend of relative prices in the countries with which the United States was trading, in that the transportation bias tends to cancel out.

P. T. Ellsworth, "The Terms of Trade between Primary Producing and Industrial Countries", *Inter-American Economic Affairs*, Summer 1956, pp. 55-56. C. M. Wright also lists such data: "Convertibility and Triangular Trade as Safeguards against Economic Depression", *Economic Journal*, September 1955, pp. 425 ff.

Estimates of the average fall of shipping rates after 1870 are given in A. K. Cairncross, *Home and Foreign Investment, 1870-1913*, Cambridge, 1953, pp. 170 ff.; and in C. P. Kindleberger, *The Terms of Trade: A European Case Study*, New York, 1956, pp. 20-21, 336-339.

12. Relative Prices, etc., p. 132.
13. These two weaknesses exist also in other series derived from European or U. S. data. The U. S. data presented below are subject to the "bias" criticism; and both criticisms are relevant to Kindleberger's series, (op. cit., Ch. 11); to that of Lewis ("World Production, Prices and Trade, 1870-1960", *Manchester School*, May 1952); and to GATT's series (Contracting Parties to the General Agreement on Tariffs and Trade, *International Trade*, 1952, Geneva, June 1953. Even so, Kindleberger concludes from his analysis of these data that, on face value, "there is no long-run tendency for the terms of trade to move against primary products in favor of manufacturing;" and that if allowance is made for the improvement in quality of manufactures, "the terms of trade may have turned against manufactures and in favor of raw materials per unit of equal quality" (p. 263). Cf. below.
14. In this chart, and in the following charts, a D following the number of a series means that the data are calculated from domestic wholesale prices, and a C means that the data are export and/or import prices.

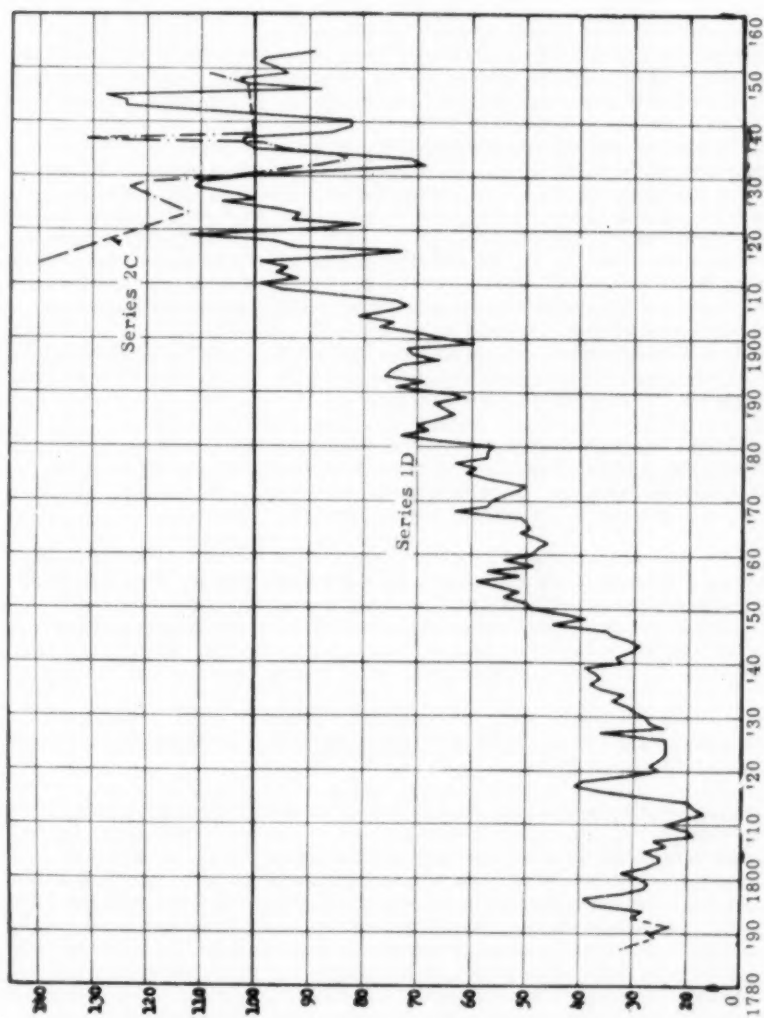


Chart 3. Terms of Trade between Primary and Manufactured Products, 1787-1953. United States data.

There is no question about the general trend of the long U. S. series (1D). Primary production has gained greatly--by 300 to 400 percent--vis-a-vis manufactures by a drastic shift of relative prices in its favor.

In what direction should we expect the domestic U. S. trend to deviate from the world trend of relative prices? There are three considerations to take into account. (a) Though the evidence is not conclusive, U. S. import duties of a hundred and more years ago probably bore more heavily than today on manufactures as compared with primary products.¹⁵ If so, U. S. data would tend to show a stronger terms of trade trend in favor of primary producers than that existing in the world at large. (b) U. S. economic evolution has been, in general, from relative advantage in primary production toward relative advantage in manufactures production. This generalization also again suggests that domestic primary-divided-by-manufactures prices must have tended to rise relative to those of the outside world. (c) On the other hand, exports of manufactures from the United States have risen drastically as a proportion of total exports of manufactures in the world, and falling secular transportation costs have made these manufactures available at relatively more favorable prices abroad, at the locations where ultimate consumers actually use the goods, as well as within the U. S. Hence the advantage of cheaper manufactures in the U. S. has been spread, in some measure, throughout the world.

The net implication of these considerations appears to be that, at the most, the world position of primary producers is not greatly exaggerated by U. S. wholesale price data. It might even be understated, for the shift from wagon and windjammer to freight car and steamer is a wide one.

As to data from primary producing countries of the world other than the United States, there is much difficulty in getting figures that are both significant--that is, from not "too small" a country as measured by production and trade--and reliable enough to enter as evidence. We have, after a considerable inquiry, rejected data from three countries that we once hoped to include: Australia, China, and Argentina.¹⁶ We have used data from India, Japan, New Zealand, the Union

15. Bureau of the Census, Historical Statistics of the United States, Washington, 1949, pp. 248-249.

16. Price series are available for Australian exports and imports from 1870 to recent years. Their definitive fault from our point of view is that the import data of 1901 to 1930, for want of better information, consisted of domestic wholesale prices for a biased portion of imports into New South Wales. The import prices were nearly all groceries, raw materials, and other non-manufactures. Hence one cannot accept that index as an appropriate measure of the price of imported manufactures. Exports were also mainly raw materials and non-manufactures. It is not surprising that the quotient of export prices divided by import prices shows no trend up or down, and only small fluctuations. The constituents of both numerators and denominators are like kinds of things. Roland Wilson, Capital Imports and the Terms of Trade, Melbourne, 1931, pp. 84-92.

For China, the most hopeful series we have been able to find are those of Franklin L. Ho, Index Numbers of Quantities and Prices of Imports and

of South Africa, and Brazil. The price series from these countries appear to fulfill the above tests. Also, the countries are in widely separated parts of the world, and so data from them add up to a better sample of world experience than if they came from only one segment.

For each country, we have used at least two series, mainly with the aim of more reliability from broader evidence. Where possible, each of the two or more series has been based upon completely different data.

The series measure two different aspects of the terms of trade between primary and secondary products. Some of the country series are for domestic wholesale prices, and so are a measure of the price situation facing the individual primary producer in his home market--and to the usually minor extent in these countries that secondary products are produced domestically, the price situation facing the domestic secondary producer.

The rest of the country series are taken from export-import data. If accurate, such data are generally preferable. They measure the position of primary versus secondary production facing the country as a whole--a different measure from the above, but also significant. And they avoid the kinds of distortion--from tariffs and other import restrictions, subsidies and price controls--to which domestic prices have become increasingly subject. The doubts on such series arise from the valuations of customs. The import values uniformly include shipping charges to the port of entry, and export values exclude further shipping costs, an acceptable practice from our point of view.¹⁷ But a shift in valuation practice, or arbitrary valuations diverging widely from market prices (as in Argentine customs data), could give bias to the trend.

The Indian data are highly reliable--if not each series by itself, then the reinforcing effect of the five, from various sources (Chart 4). The general impression of the 1861-1953 period is that of a rise, a fall, and a rise--and violent instability throughout.

Exports in China, Tientsin, 1930; and, also under the direction of Ho, Nankai Institute of Economics, Nankai Index Numbers, Tientsin, 1937. But the series (for 1867 to 1928) of these two publications, for unexplained reasons, march off in opposite directions: one shows China's terms of trade improving, the other shows them deteriorating, though the data are supposedly identical.

After attempting to find or construct an acceptable terms-of-trade series for Argentina, we have regretfully concluded that the figures are not adequate. The problem of ascertaining prices of Argentine exports and imports is that of giving appropriate correction to the errors introduced by the "nominal" (i. e., arbitrary) prices set by application of the tariff acts. The divergence between actual and nominal prices was estimated by E. A. Bunge, former Director General of Statistics, at 8 percent in 1910 and a remarkable 68 percent in 1915. (Intercambio Económico de la República, 1910-1917, Buenos Aires, 1918, pp. 10-18. Cf. John H. Williams, Argentine International Trade under Inconvertible Paper Money, 1880-1900, Cambridge, Mass., 1920, pp. 178-181.)

17. United Nations, Relative Prices, etc., op. cit., pp. 132-135.

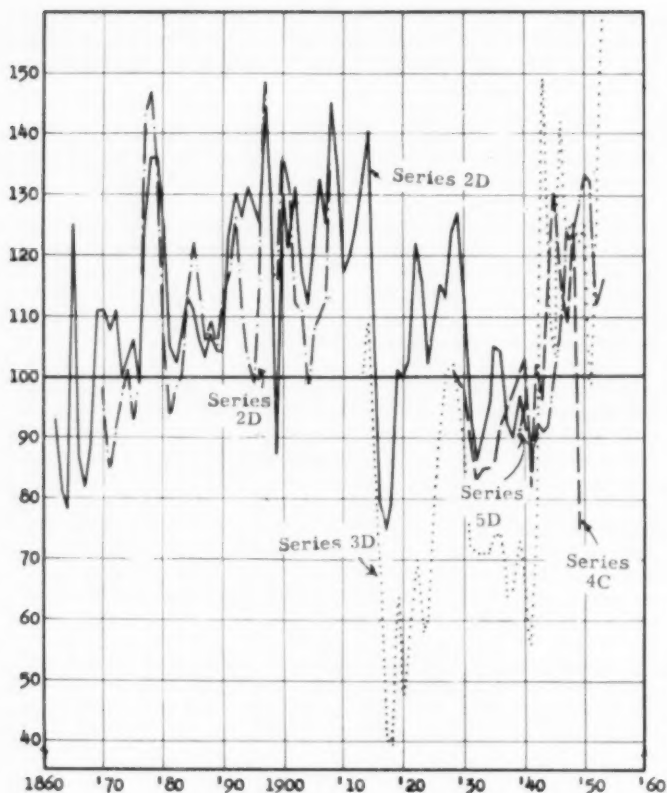


Chart 4. Terms of Trade between Primary and Manufactured Products, 1861-1953. Indian data.

The second case is Japan (Chart 5). Data from exports and imports (Series 1C) show a mild rise, then much deterioration. Those from domestic wholesale prices (Series 2D) suggest two booms between three troughs, with no clear trend either up or down. The different impressions of the two series may well be due to trade restrictions. War conditions and price controls weaken the significance of the data after the mid-1930's.

The New Zealand price data (Chart 6) appear unusually reliable. The general trend, though irregular, is clearly upward.

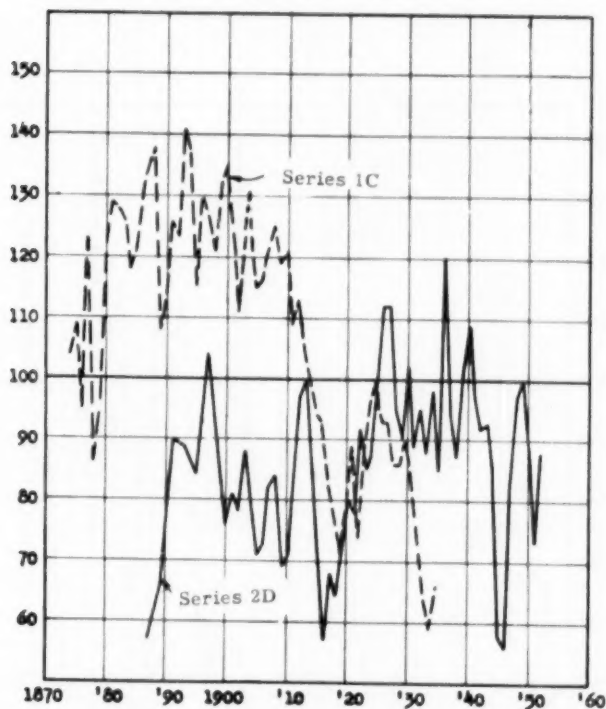


Chart 5. Terms of Trade between Primary and Manufactured Products, 1873-1952. Japanese data.

The data for the Union of South Africa (Chart 7), during the shorter period, 1910 to 1952, for which we have data, show a curious pattern: deterioration of terms of trade during the First World War, improvement to the mid-1930's, and deterioration since. Throughout the last twenty years of the data, tariffs and price control legislation have had a considerable influence on domestic prices.

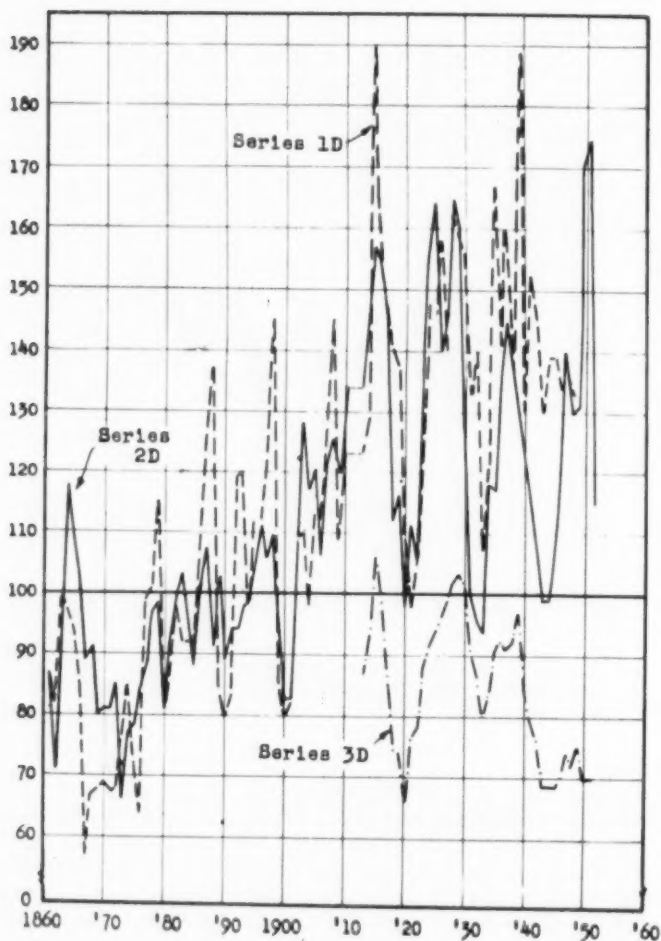


Chart 6. Terms of Trade between Primary and Manufactured Products, 1861-1952. New Zealand data.

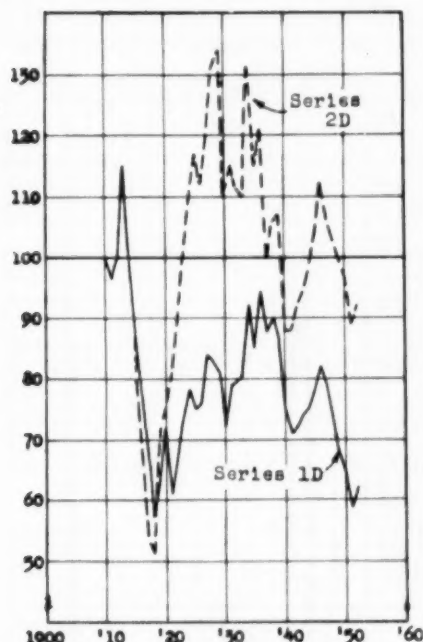


Chart 7. Terms of Trade between Primary and Manufactured Products, 1910-1952. Union of South Africa data.

Chart 8 gives evidence from Brazil for 1901-1950, reproduced from a study of H. E. Silva. The impression is that of two troughs between three peaks, and great irregularity, but no unbroken trend up or down.¹⁸

18. The Pan American Union has produced an estimate for all Latin America from 1866 to 1953. United States wholesale prices are used to represent the prices of Latin America imports, and United States price quotations are applied to a weighted group of commodities representing Latin American exports. Hence the criticisms we made above of the British series--above all, the bias, for our purpose, introduced by falling transport costs--is relevant also to these series. But, for its interest, the index shows an irregular decline from the 1866-1881 years into the 1930's, with a rise to a level 1950-1953 about equal to that of the late 1890's. Pan American Union, *Términos de Intercambio de América Latina: su Evolución y Perspectivas*, September 15, 1954, pp. 26-41.

An International Monetary Fund Paper finds in a shorter period the terms of trade of all Latin America to be: 1948 (10 months) 150, as compared with 1925 = 135. (J. Anumada and A. Nataf, "Terms of Trade of Latin American Countries", February 1950, pp. 131, 135.)

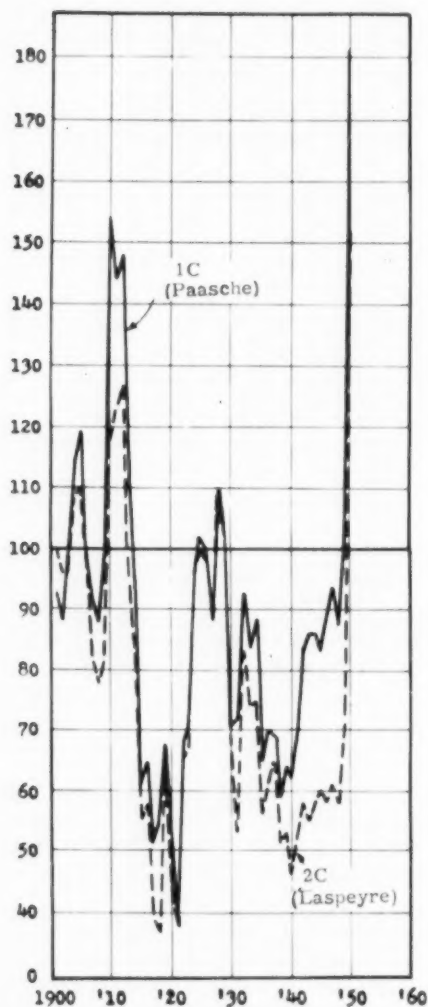


Chart 8. Terms of Trade between Primary and Manufactured Products, 1901-1950.
Brazilian data.

Tables 1, 2 and 3 summarize the experiences of the seven countries within each of the three different time perspectives indicated.

Table 1. Data Covering Approximately 150 Years--1800 to 1950

<u>Countries</u>	<u>Estimate of Reliability of data</u>	<u>Exact years covered</u>	<u>General movement of prices of primary products divided by prices of manufactures</u>
United Kingdom	Good (earlier years) to excellent (later years)	1801-1953	Major rise (to the mid-19th century), then major fall
United States	Good (earlier years) to excellent (later years)	1787-1953	Major rise through whole period

Table 2. Data Covering Approximately 90 Years--1860's to 1952

<u>Countries</u>	<u>Estimate of reliability of data</u>	<u>Exact years covered</u>	<u>General movement of prices of primary products divided by prices of manufactures</u>
United Kingdom	(see above)	1860-1953	Major fall (but a rise in the last 20 years of series)
United States	(see above)	1860-1953	Major rise (wider fluctuations in last 40 years of series)
India	Excellent in total	1861-1953	Rise--fall--rise
Japan	Good	1873-1952	Customs data: mild rise, then major fall to 1930's. Domestic data: rise to 1930's, then decline (violent fluctuations)
New Zealand	Excellent	1861-1952	Major rise (violent fluctuations)

Table 3. Data Covering Approximately 50 Years--1900's to 1952

<u>Countries</u>	<u>Estimate of reliability of data</u>	<u>Exact years covered</u>	<u>General movement of prices of primary products divided by prices of manufactures</u>
United Kingdom	(see above)	1900-1953	Major fall to the 1930's; moderate rise in recent years
United States	(see above)	1900-1953	General rise
India	(see above)	1900-1953	Fall to 30's, then a rise
Japan	(see above)	1900-1952	Customs data: fall to the 30's; Domestic data: no clear trend (violent fluctuations)
New Zealand	(see above)	1900-1952	Upward trend in earlier years; no clear trend since the 20's (violent fluctuations)
Union of South Africa	Good	1910-1952	Fall-rise--fall
Brazil	Good	1901-1950	Rise--fall--rise--fall--rise (violent fluctuations)

The over-all impression from these three tables is, I submit, that of the wide variety of experience of different nations. The variety suggests highly diverse demand and supply experience for particular commodities of the different countries covered. Table 1 underlines the importance of not generalizing on the experience of other countries or regions, from the experience of one. The remarkable data for the United States, showing continued and drastic improvement in the price position of agriculture over a century and a half, probably bears testimony mainly to the relatively rapid realization of the special advantages of the United States in many a line of manufacturing--as natural resources were discovered and utilized, capital accumulated and technology improved, and labor and management skills advanced. That is, the increase in the output of manufactured products compared to agricultural products must have exceeded the increase in demand for manufactured products compared to agricultural products, as the per capita real incomes of the American people kept on growing. In the case of the United Kingdom, I suspect the same argument holds up to the mid-19th century, but that the pattern since then (of relatively falling agricultural prices) has been dominated by the effects of the opening up of North America, Argentina,

Australia, and New Zealand and some other agricultural areas to world commerce, falling transport costs, and the adoption of a free trade policy.

The shorter time perspective of Table 2 brings the contrasting experience of the United Kingdom and the United States into sharp relief. There is some corroboration of what one would expect, that the more violently fluctuating series are based on data for small numbers of commodities--for example, the violent Indian series 3D represents prices for only two primary and two manufactured products, and the New Zealand series 2 is based on price quotations for seven commodities. The rising terms of trade for agriculture in the Indian and New Zealand data, from the 1860's into the first decades of the 20th century, suggest that falling world and local transport costs were then exerting a strong upward pull on farm prices in producing areas, and a downward push on manufactured prices in distant consuming areas. Increasing industrialization would weaken this effect later.

Finally, there are the 50-odd years of Table 3. Beginning with about 1910, the U. S. series no longer shows a sharp upward trend, but at most, only a moderate upward movement. The changed trend may reflect relatively more rapid technological progress in American agriculture compared to manufacturing. In recent years, the simple explanation of a number of good seasons is relevant.

From the decade 1910--1920 on, all these series show conspicuous instability. Two wars and the great depression, with their correlated changed basic demands for and supplies of particular goods, and correlated shifts in commercial policy, have caused increasingly violent price changes. For most series, the depression years bring a sharp worsening in the price position of agriculture; but after those years there has been sharp improvement.¹⁹

-
19. Primary producers may, of course, be burdened by falling relative prices for their products, at the same time that their real incomes are rising. Suppose that the real price of A's product is falling, but that his productivity is rising faster than that price falls. Then his real income rises--and it might rise faster than that of producer B, the real price of whose product is rising.

A's situation resembles that of primary producers in the United States, Argentina, and some other "underdeveloped" areas of the nineteenth century. Rich agricultural areas of the world were being settled and were being made accessible to work markets. Even if and where the terms of trade of primary producers in such areas were deteriorating, their real income advance could have been much faster than that of typical manufacturing producers of the world.

A more extreme case is possible. Assume that factors are employed somewhere in the domestic economy with lower productivity than exists for them in the export sector, and that they have not hitherto moved into export sector employment. That is, there is malallocation of these factors due to their immobility. Now production for export expands, and these factors are drawn into the export sector. The factors will gain to the extent their (rising) marginal productivity in the employment they are leaving still remains below their (falling) marginal productivity in the export sector. The real prices of the products of the export sector may be falling.

In summary: the real income of these factors can be rising, without

II. Two Theories of the Terms of Trade

The data do not show any general worsening of the price position of primary producers. Hence theories that purport to explain why a worsening must take place invite special scrutiny.

Raul Prebisch has developed an attractively plain thesis to explain the British data, 1876-1948.²⁰ He generalizes that "the advantages of technical progress have been mainly concentrated in the industrial centers and have not directly extended to the countries making up the periphery of the world's economic system."²¹ The cause is said to be that "the characteristic lack of organization among the workers employed in primary production prevents them from obtaining wage increases (in the boom) comparable to those of the industrial countries and from maintaining the increases to the same extent (in depression)."²²

This reasoning appears inconclusive on two counts. (1) Are money wages and prices that rise freely and fall sluggishly either necessary, or sufficient, to cause relatively high prices in the world market? No, for world supply and demand are the determinants of world price levels. Any country whose unions had been especially successful in hiking money wage rates would find itself in a competitive squeeze. Its sales of exports would slip, its balance of payments turn adverse; and if domestic prices did not in the longer run fall, the exchange value of its currency would fall instead. (2) Higher money wages do not necessarily cause higher domestic prices. They do so only if they rise faster than productivity. But even if they do the question still remains as to whether unions secure higher money wage rates, for labor of given quality, than

their achieving rising productivity, and with worsening terms of trade. (Cf. R. E. Baldwin, "Secular Movements in the Terms of Trade", American Economic Review, Papers and Proceedings, May 1955, pp. 259-269.

20. Above, Chart 1. Prebisch is the author of the United Nations, The Economic Development of Latin America, Lake Success, New York, 1950. The data that he used are from a preliminary version of the study later published by the United Nations as Relative Prices, etc., *op. cit.*
21. *Op. cit.*, p. 8. Prebisch, in fact, goes further and argues that falling terms of trade of the primary producers has transferred part of the fruits of their own technical progress to the great industrial centers (pp. 10, 14).
22. *Ibid.*, p. 13. H. W. Singer's similar view is not explicitly based on the unionization argument. American Economic Review, Supplement, May 1950, p. 478; Review of Economics and Statistics, Supplement, February, 1958, p. 87.

Gunnar Myrdal accepts deterioration of terms of trade for underdeveloped countries as a general fact, and concludes simply that they have had "rather bad luck" (An International Economy, New York, 1956, pp. 230-238); and that the play of market forces works normally toward greater economic inequality between localities and regions, rather than toward less (Rich Lands and Poor, New York, 1957, pp. 23-66).

the wages rates of non-union labor. Net conclusions from inquiries in this field are notably cautious.²³

The first argument (1) of the above paragraph is relevant also to W. Arthur Lewis' view that "over-concentration on exports" brings with it the penalty of adverse terms of trade to underdeveloped areas that do nothing to raise the productivity of peasants producing food for domestic consumption. The latter "constitute a reservoir of cheap labour available for work in mines or plantations or other export enterprises."²⁴ But any one underdeveloped country runs the risk, as it raises its costs of producing exports, of pricing itself out of the world market. And if all underdeveloped countries together raise their costs and price quotations, they can find themselves in a worse net position, if demand for the export product falls off sharply. For example, how much would underdeveloped countries exporting rubber (or cotton, or rice) be advantaged by a sharp rise in price quotations for those commodities?

In his recent exhaustive study,²⁵ Kindleberger finds that "in the European context, the terms of trade favor the developed and run against the underdeveloped countries" (p. 239). He was able to compute only the merchandise terms of trade for this purpose (p. 232). The data are for 1872, on, and do not take into account the effects of specially rapid quality improvements in manufactures, and the relevance (from the point of view of primary producers on their home grounds) of falling transportation costs.²⁶

After considering and rejecting several other explanations, Kindleberger suggests that the terms of trade he feels to exist--that is, that price trends have been unfavorable to underdeveloped countries--are due to "systematic differences

23. Cf. the symposium in the *Proceedings, American Economic Review*, May 1954, pp. 279-331. The principal contributors were C. Kerr, M. Bronfenbrenner, and H. M. Levinson. Kerr does conclude firmly that labor's share of income has been no larger in unionized than in non-union industries (p. 288).

24. *The Theory of Economic Growth*, London, 1955, p. 281.

25. *Op. cit.*

26. The qualification in the above quotation is well taken. One could hold that "in the European context, the terms of trade... run against the underdeveloped countries" and also believe that in the underdeveloped countries themselves, the terms of trade have not generally run against them. The Kindleberger data support the former; the data of this paper support the latter statement.

Hence it does not follow, as Kindleberger concludes, that "the views of Singer and Prebisch [that the terms of trade of underdeveloped countries have deteriorated]... derive support" from his data. "The Terms of Trade and Economic Development", *Review of Economics and Statistics*, Supplement, February 1958, p. 85. It is the experience of underdeveloped countries on their home grounds that is relevant to their policies.

in the capacity of the two types of countries to shift resources" (p. 253).²⁷ Underdeveloped countries are said to be less able to shift their resources off downward price escalators and on to upward price escalators, than are developed countries.

But he also finds that the terms of trade between manufactures and primary products do not run against primary products. Thoroughly heterogeneous price experience among the commodities measured, especially when they are divided up among different regions of export and import, is given as the explanation.²⁸

The data of this paper suggest that emphasis ought to be centered on the heterogeneity of price experience. Particular supply influences, and particular demand changes, for different commodities, countries and times, have dominated the historical picture.

What are the implications for policy in underdeveloped countries of these data? First, and so obvious that it need not be stated save that it is often overlooked: the barter terms of trade we have been looking at have only limited relevance to policy in underdeveloped countries with respect to specialization in primary products versus manufacturing. Both a single factor terms of trade concept (the volume of imports obtainable through devoting a unit of factors to export production), and the income terms of trade (the volume of imports obtainable from total export earnings) are likely to be more significant for policy.²⁹ And both of these latter terms of trade concepts are apt to show a more favorable trend than does the barter terms of trade.

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27. In the Dollar Shortage (New York, 1950), Kindleberger presented a different thesis:

The certainty of loss arises from agricultural and primary product countries from the assumption of continuously increasing efficiency of production in these and in manufactured products, and... the application in these circumstances of Engel's law on a national basis (p. 122).

This reasoning raises two main questions: (1) whether a modification of Engel's law to make it apply to real expenditures over successive time periods, is valid; and (2) whether the world's per capita income has been rising, or rising enough, so that such a modified Engel's law has had a chance to work. Kindleberger has not followed this reasoning in his later book on European terms of trade.

28. The Terms of Trade, etc., *op. cit.*, pp. 263-264.

29. Cf. Viner's analysis of terms of trade concepts in his Studies in the Theory of International Trade, New York, 1937, pp. 558-565; and the relevant comments of G. M. Meier, Review of Economics and Statistics, Supplement, February 1958, pp. 88-90.

Second, insofar as the barter terms of trade data are to be used as a guide to policy: (a) European data or world data should not be relied on, but instead the price changes experienced in the country in question. (b) No easy assumption should be made that primary products as a whole are likely to rise or fall in real price. Instead, the prospects of each potential export and import and import-substitute commodity ought to be scrutinized separately. Underdeveloped countries should be vividly aware that price raising policies by one or a few of the world producers of a commodity invite disaster as other producers gratefully expand into their former markets; and they should be equally aware that a general, cartel-type, attempt by all producers of a commodity to raise its price (e.g., rubber, sugar, wheat, tin, steel) is a cordial invitation to new producers to start up production, to customers to shift over to existing substitutes, and to industrial chemists and engineers to invent new substitutes. (c) Even the most careful predictions of future prices are nearly certain to be partially or wholly wrong. Hence, as many writers in this field have emphasized, underdeveloped countries should center strong emphasis on improving the flexibility and adaptability of their economies, so as to be able to shrink the output of things in which their advantage is shrinking, and expand rapidly the output of things in which they have expanding advantage.

APPENDIX*

Chart 1. British Data, 1876-1948

Source: United Nations, Relative Prices of Exports and Imports of Underdeveloped Countries, New York, 1949, Table 5, p. 22. Series A from 1876 up to 1929, is based on League of Nations data (Industrialization and Foreign Trade, New York, 1945, pp. 154-157), which used the Sauerbeck British wholesale price index for primary products, and Schlote's price data from British trade statistics. (Werner Schlote, Entwicklung und Strukturwandlungen des englischen Aussenhandels von 1700 bis zur Gegenwart, Jena, 1938; translated as British Overseas Trade from 1700 to the 1930's, Oxford, 1932.) The 1930-1938 years rest on world (rather than British) trade data, from Review of World Trade. Series B, 1876 to 1938, draws its data from the Schlote study alone. Series C is the British Board of Trade index, converted to a 1938 base.

Chart 2. British Data, 1801-1953

Series A, 1801-1929: the Sauerbeck index of British primary product (domestic) prices divided by Schlote's data for prices of British total exports (1801-1812), or manufactured exports (1814-1929). Schlote, British Overseas Trade, etc., Table 26, pp. 175-178. 1930-38 and 1946-1953: Board of Trade

* A more complete (22 page) version of this appendix, with the basic tables, and more detailed description of sources and procedures, is available from the author on request.

index number for prices of imports divided by their index number of prices of exports. United Nations, Relative Prices, etc., p. 22, through 1948; thereafter Board of Trade Journal, various issues. Series B, 1814-1853; the reciprocal of Schlote's series, export price index for manufactures divided by price index for imports; 1854-1933: the reciprocal of Schlote's series, export price index for manufactures divided by import price index for raw materials. Op. cit., Table 17, p. 154.

Chart 3. United States Data

Series 1D, 1787-1889: Warren and Pearson data reproduced in Bureau of the Census, Historical Statistics of the United States, 1789-1945, Washington, 1949, pp. 227, 231-232. Price of farm products divided by price of manufactures, averages for the year. 1890-1953: Bureau of Labor Statistics Wholesale Price Indices. Op. cit., pp. 229, 233-234. Bureau of Labor Statistics, Business Statistics, Supplement, 1953, pp. 27, 30, 31. Survey of Current Business, various issues. Series 2C, 1913-1948: prices of raw materials imports divided by prices of manufactures imports. Both series are f.o.b. United Nations, Relative Prices, etc., Table 7, p. 26.

Chart 4. Indian Data

Series 1D, 1861-1940: index numbers of the domestic prices of 28 exported articles, divided by the index numbers of domestic prices of 11 imported articles. For 1861-1931, Department of Commercial Intelligence and Statistics, Index Numbers of Indian Prices, 1861-1931, Delhi, 1933, p. 1. For 1932-1940, Department of Commercial Intelligence and Statistics, Addendum... to the Index Numbers of Indian Prices, 1861-1931, Calcutta, annually, 1934 to 1941. Series 2D, 1870-1908: prices of domestic primary products divided by prices of domestic manufactures. All Indian prices collected by Fred J. Atkinson, Accountant General, United Provinces. Bureau of Labor Statistics, Index Numbers of Wholesale Prices in the United States and Foreign Countries, Washington, 1915, p. 282. Series 3D, 1914-1953: prices of two primary product groups divided by prices of two manufactured product groups, wholesale market, Calcutta. 1914-1937, Statistical Abstract of British India, in British Parliamentary Papers, Vol. 25, p. 551; and Vol. 26, p. 387. 1938-1953: Indian Trade Journal, various issues. Series 4C, 1927-28 to 1948-49: prices of exports from British India divided by prices of imports. 1927-1937: Statistical Abstract of British India, in British Parliamentary Paper, Vol. 25, p. 889, and Vol. 26, p. 708. 1938-1949: Statistical Abstract of India, 1947, p. 513, and 1949, p. 1681. Series 5D, 1939-1953: prices of wholesale primary products, divided by prices of semi-manufactured and manufactured goods. 1939-1947: Statistical Abstract of India, 1949, p. 1246. 1948-1953: Tata Quarterly, A Review of Economic and Financial Conditions in India, Bombay, October 1953, p. 95; April 1954, p. 46. The basic data shift appreciably between 1947 and 1948.

Chart 5. Japanese Data

Series 1C, 1873-1934: from customs data for prices of exports and imports. 1873-1903: prices of exports (taken as an approximation for primary products) divided by prices of imports (taken as an approximation for manufactures. I. Ishibashi, editor for the Oriental Economist, Foreign Trade of Japan, Tokyo, 1953, p. 798. 1904-1934: prices of foods and crude materials among

exports, divided by prices of semimanufactures and manufactures among imports. Op. cit., pp. 699-701. Series 2D, 1887-1952. Domestic wholesale price data. For 1887-1933: constructed from prices of four cereals, representing primary products, and four categories of manufactures. Department of Finance, Financial and Economic Annual of Japan, Tokyo, various issues; S. Tsuru, Development of Capitalism and Business Cycles in Japan, 1868-1897, Cambridge, Mass., p. 273. Japan Statistical Yearbook, 1949, pp. 634, 635, 637. For 1934-1948: from wholesale prices of Tokyo, Bank of Japan data. Supreme Command Allied Powers, Japanese Economic Statistics, Bulletins 43-44, March-April 1950, p. 21; Bulletin 66, February 1952, p. 15; Bulletin 78, February 1953, p. 14.

Chart 6. New Zealand Data

Series 1D, 1861-1949: This series, like the two remaining, is based on domestic wholesale price data. 1861-1910: from data of J. M. McIlbraith, The Course of Prices in New Zealand, Wellington, 1911. 1913-1924: Statistical Report on Prices, Wages, Hours of Labour, Wellington, 1925, p. 12. 1925-1933: Statistical Report on Prices, Wellington, 1933, p. 9. 1934-49: New Zealand Official Yearbook, various years. Series 2D, 1861-1952: for 1861-1910, calculations based on a different selection of primary products and manufactures, though a few constituents appear in both Series 1D and 2D. McIlbraith, op. cit. 1913-1952: constructed from data of New Zealand Official Yearbook, various years. Series 3D, 1913-1951: a price index of locally produced commodities divided by an index of imported commodities. New Zealand Official Yearbook, 1951-52, p. 776.

Chart 7. South African Data

Series 1D, 1910-1952. Domestic wholesale prices of Union goods divided by those of imported goods. Series 2D, 1910-1952. A price index for grains, meals, potatoes, dairy products, and meat, divided by an index for metals and chemicals. Source for both: Bureau of Census and Statistics, Official Yearbook of the Union of South Africa, Pretoria, various issues.

Chart 8. Brazilian Data

Laspeyre and Paasche price indices are calculated for 27 export commodities, representing from 80 to 97 percent of total exports, and for 61 import commodities, representing from 41 to 68 percent of total imports. Both groups are valued at the port of entry or exit. I am indebted for these calculations to Helio Schlittler Silva, Indices de Precos do Comercio Exterior do Brasil, Sao Paulo, November 1952.

RIVER VALLEY PROJECTS IN INDIA: THEIR DIRECT EFFECTS*

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The present article advances a tentative framework for the analysis of the direct effects which the irrigation component of river valley projects may have on the structure of agriculture in underdeveloped countries. The focus of attention is on the impact of river valley projects in the agricultural economy within the context of the total development effort of which these projects are usually a part. In its quantitative aspects the analysis makes use of Indian data; in its broader methodological implications and qualitative aspects the analysis would seem to transcend particular cases and apply to other underdeveloped areas as well.

The term direct effects covers the repercussions which a perennial supply of water is likely to have on the structure of farm production in the area immediately adjacent to and affected by the project. In addition, to these direct efforts there are various indirect or secondary effects of river valley projects which are reflected in changes in the structure of industries (including distribution) in a wider area and which can be traced back to the changes in agricultural production. Both the direct and indirect effects of irrigation can be distinguished at least conceptually from the socio-cultural impact which river valley projects may have on world outlook and institutional arrangements. In the present article, however, attention will be focussed on the direct effects of irrigation.

I

The practical and theoretical importance of a general conceptual framework for the qualitative and quantitative analysis of the effects of river valley projects requires hardly any elaboration. Economic planners in underdeveloped countries are asking with increasing insistence for suitable investment criteria, designed to permit a rational judgment¹ of alternative projects. Such criteria

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1. We are using the generic term "judgment" rather than the traditional concepts of choice, evaluation, and measurement in order to avoid any misunderstanding and avert any allusion concerning the quantitative precision that can be hoped for in the assessment of social goals and the process of decision-making in national economic planning.

would have to throw light on the as yet unsolved and open questions of national economic planning that are related to the ranking of river valley projects as compared with other social overhead investments, the establishment of priorities among alternative projects, the determination of the relative public expenditure level and hence the proper size for each project; the allocation of costs to the different but joint purposes of the project, and lastly the selection of the administrative measures and subsidiary investments which would secure the prompt and optimum use of the new capital goods and services. Obviously, the common prerequisite for the elaboration of rational investment criteria is an adequate and comprehensive knowledge of the typical (both actual and potential) effects of the various component parts of river valley projects.

While there is no scarcity of empirical data and theoretical studies on the subject, a satisfactory solution of the difficult problem raised by the aforementioned issues still seems to escape us. Indeed, the authors of a rapidly increasing literature on benefit-cost calculations in connection with river valley projects seem to have no illusions concerning the comprehensiveness and validity of their criteria. In fact, it is one of the merits of these studies² to have made explicit some of the assumptions which underlie the calculations of investment criteria in terms of benefit-cost ratios. Among these assumptions are the following: (1) that prices reflect the true opportunity costs of resources (which they do not in underdeveloped countries which are on the verge of emerging from a long period of stagnation and are in a process of economic and social transformation); (2) that human resources are fully employed (which is not the case in underdeveloped countries which carry with them much open and disguised unemployment); (3) that the intangible benefits are not so large that they outweigh the benefits that can be measured in monetary terms (which may hold neither for developed nor underdeveloped countries); and (4) that problems of equity (e.g., equalizing the opportunity of economic growth as between different regions and redistributive reforms in general) can be ignored, which, while perhaps tenable for developed countries where problems of equity and redistributive reforms can be taken care of by countervailing tendencies made possible by the democratic process, would be equivalent to assuming away some of the most important obstacles to economic growth and social change in underdeveloped countries.

Indeed, all benefit-cost studies seem to be focussing attention on the allocation problem at the expense of the question of whether and what kind of

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2. See on the following: Otto Eckstein, *Water-Resource Development*, Cambridge, Mass., 1958, pp. 280-281; *Symposium on Determination of Costs and Benefits of River Valley Projects*, 1953, Central Board of Irrigation and Power, New Delhi, 1954; H. W. Singer, "Development Projects as Part of National Development Programmes", United Nations, *Formulation and Economic Appraisal of Development Projects*, I, New York, 1951; W. Galenson and H. Leibenstein, "Investment Criteria, Productivity and Economic Development", *Quarterly Journal of Economics*, August 1955, pp. 343-370; V. V. Novozhilov, "On Choosing between Investment Projects", *International Economic Papers*, 1956, No. 6; *Proposed Practices for Economic Analysis of River Basin Projects*, Report of the Federal Inter-Agency River Basin Committee, Subcommittee on Benefits and Costs, Washington, 1950.

cumulative economic and social changes may be set in motion by river valley projects. In a fully developed country in which the preconditions of cumulative economic and social change are more or less fulfilled, this neglect of what may indeed be taken for granted is perhaps justifiable. In an underdeveloped country where "the natural play of forces" has long tended toward stagnation, the use of purely monetary benefit-cost calculations as investment criteria raises more questions than can be answered at the present time. For instance: will the highest benefit-cost ratio automatically assure the highest real and social rate of return? Will the highest rate of return and profitability based upon the pattern of demand that emerges from free consumers' choices necessarily guide us to those investment outlays which maximize the rate of growth? Finally, how can benefit-cost ratios take into account the fact that investments with long periods of gestation and high capital intensity in all associated production functions may have a lower productivity in the short-run and hence a high capital-output ratio which might disappear if a longer period of time is allowed in measurement?³ As soon as it is realized that the process of economic growth in order to become cumulative must also be a process of social change and cultural transformation, it becomes clear that benefit-cost ratios, while not without considerable significance in evaluating public investments in fully developed countries, may be much less relevant as investment criteria for underdeveloped countries.

In the present article we start from a somewhat different theoretical framework than that which underlies the calculations of benefit-cost ratios. In contrast to the theoretical framework which assumes a tendency toward self-stabilization, we accept the principle of circular or cumulative causation which Myrdal first developed in connection with the analysis of the Negro problem in the United States and which he has recently applied to the study of the economic process in underdeveloped countries. This principle seems to throw light on the emergence, continued existence, and even growth of regional inequalities by focussing attention upon the interaction of what are really inseparable economic, political, and cultural factors. Like the well-known cumulative interaction of poverty, ignorance, and disease, the social system, under the impact of the whole range of economic and non-economic factors, "is by itself not moving toward any sort of balance between forces but is constantly on the move away from such a situation. In the normal case a change does not call forth countervailing changes, but, instead, supporting changes, which move the system in the same direction as the first change but much further".⁴

In contrast to the earlier conceptual framework which views the social process (or at least the conceptually separated "economic" process) as subject to essentially self-sustaining (i. e., countervailing) forces which tend to some theoretically definable and determinate stable position, the principle of

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3. W. Rostow, "Trends in the Allocation of Resources in Secular Growth", in L. H. Dupriez, ed. Economic Progress, Papers and Proceedings of a Round Table Held by the International Economic Association, Louvain, 1955, pp. 367-382.
 4. G. Myrdal, Rich Lands and Poor, New York, 1957, p. 13.

cumulative causation makes it possible to account for the practically more relevant tendency of circular stagnation in underdeveloped countries. What has to be understood above all are the causes which led to cumulative processes of stagnation and regional inequalities. And these processes cannot be fully interpreted as long as the so-called economic are seen in isolation from the so-called non-economic factors.

This is not the place to develop the concept of cumulative causation in greater detail⁵ and with particular reference to regional inequalities in underdeveloped countries. Suffice it to make explicit the scientific and methodological implications of the principle of cumulative causation for a realistic study and ultimate appraisal of the effects of river valley projects. Perhaps the first and most important implication is that river valley projects must be viewed in their relation to the total economic situation and development plan of the country under consideration. What is relevant in this connection must be determined in each case by the effect and potency of an impulse (such as irrigation and power) to bring about changes in the social system in the direction of cumulative expansion. This does not mean that it is necessary or even desirable to study the process of cumulative change in its totality. The strategy of scientific analysis calls for a reduction of any problem under discussion to manageable proportions and for the introduction of relevant distinctions between the different factors at work. While we have will to divide the process under study according to these methodological requirements, it will be necessary to keep in mind at all times that the changes set in motion are interconnected. More than this, it is important that the effects be traced and described not only qualitatively but also quantitatively. Ideally the complete and truly scientific solution of the problem would indeed require an "interconnected set of quantitative equations, describing the movement and the internal changes of the system studied under the influences which are at work. That this complete, quantitative and truly scientific formulation is far beyond the horizon does not need to be pointed out".⁶

In the meantime it will be helpful and necessary to provide a rational framework capable of identifying as completely as possible the relevant and strategic functional relationships which river valley projects are likely to set in motion. What the planner must know and the social scientist wants to discover are the effects which a given supply of water in a dry area may have on the structure of farm production. What will be the effects of the new structure of production on the rural subsistence economy? What are the new input or investment requirements? What are the probable expenditure patterns which the new output and the additional farm income make possible? What additional yields can be expected? More specifically, which administrative arrangements and subsidiary public investments will be called for in order to assure the optimum utilization of the new capital equipment and through it the maximum economic advance of the region? Equally important, what are the potential negative

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5. For a fuller treatment see Myrdal, *op. cit.*, Chas. 2-8; and *The American Dilemma, The Negro Problem and Modern Democracy*, Appendix 3, "A Methodological Note on the Principle of Cumulation", New York, 1944, pp. 1065 ff.
 6. Myrdal, *Rich Lands and Poor*, *op. cit.*, p. 19.

effects of supplying additional water to a formerly dry area in a tropical country? And finally, what will be the long-run impact of the new structure of production and the new farm economy on the cultural values and behavior patterns in the underdeveloped area? It goes without saying that some of these relationships are less accessible to scientific analysis than others. However, a rational framework of investment planning calls for a comprehensive appraisal of all the effects, whether immediate or potential, which river valley projects are capable of setting in motion. Without such an appraisal the planning authorities are not likely to develop a realistic strategy of administrative controls designed to assure the greatest possible benefits from the public investment.

From the foregoing it must be clear that the complicated processes of circular interrelationships which multi-purpose projects are capable of setting in motion can be analyzed and appraised only in real terms. That is to say, we must abandon the hope of analyzing the circular process in terms of a single criterion of market values and must instead face the much more difficult task of finding a way to appraise its effects in terms of criteria that are adapted to the task of measuring the cumulative process of growth in its various manifestations. Ultimately this may be possible only in terms of a technical standard that measures improvements in "the economy of means" in physical terms rather than in terms of the more comprehensive but somewhat formal test of the efficiency of the entire allocation problem within the economy as a whole. No doubt an underdeveloped country can ill afford any inefficiency (waste) in the allocation of its limited resources for its competing objectives. But in the absence of any precise and substantive knowledge of the benefits obtainable from the whole range of alternative investment outlets (e. g., improvement of agricultural technology and farm management, reform of farm credit, widening of internal and foreign markets, administrative and political reforms, wider educational opportunities, and changes in land tenure arrangements), we must be satisfied with an appraisal of the development process in terms of relationships between physical quantities. Such relationships can be expressed in terms of output per input (production per factor) or in terms of input per output, in which case they measure the use or "consumption" of required factor per unit of output. In either of its two forms productivity data are ratios without upper limits that are capable of showing the progressive improvement from period to period. What makes productivity a particularly comprehensive test of the growth process is the fact that its increase depends upon many causative factors. Technology and equipment must combine with greater skill and the capacity to innovate, as well as greater equality of opportunity, higher industriousness, and new forms of human relations, before it is possible to make a significant dent in the low level of productivity (particularly agricultural productivity) of most underdeveloped countries. It is precisely because productivity depends upon economic and social changes that improvements in productivity provide not only the most comprehensive test but also the major goal of the underdeveloped world. Unless productivity is rising in the affected regions from year to year, we cannot truly speak of a successful river valley project.

Finally, a descriptive analysis of the long-run effects of river valley projects would gain in perspective if it could take full account of the conditions that existed during the last decades prior to the transition to irrigated farming. Ideally, this would require a survey of the region designed to convey a picture of the available resources and their use; principal crops and output; the use of

manure and fertilizer; crop patterns and rotation; principal occupations and employment patterns; the labor supply including major skills and percentage of unemployed; the pressure of population on land including birth, mortality, and morbidity rates; the financial resources of the cultivators; administrative arrangements and their relative effectiveness; the extent of social services such as medical care and education; and the frequency and extent of famines and floods including an indication of the loss of public revenues due to the suspension of land revenue collections, as well as of the major features of socio-cultural backwardness and deficiencies. Indeed, for all practical purposes of tracing and evaluating the effects of a given project, it would be important to conduct a series of benchmark surveys of the socio-economic process not only before and after completion of the project but also during its construction.

In the absence of such comprehensive surveys, we must be satisfied to base our analysis upon statistical data capable of documenting and illustrating the various repercussions that have been selected for detailed treatment. We are aware of the fact that this procedure may introduce a bias into our analysis. The available data pertaining to older irrigation areas may not be representative of the effects which additional land brought under irrigation in other areas may have. It is not possible to say whether the extension of irrigation farming to new areas would give rise to a greater or smaller increase of output and a more or less pronounced change in the structure of farm production. As pointed out later, these effects depend upon many factors.⁷ All that can be said here is that statistical data in underdeveloped countries are relatively sketchy and uneven; that the data used are the only ones available; and that in view of the fact that the data pertain to conditions in which for the most part there was no deliberate plan for many of the subsidiary investments called for by irrigation farming, they may underestimate rather than overestimate the direct effects of irrigation.

II

The strategic significance of irrigation in India's development effort derives from the fact that the average rainfall for most of India is low and subject to great variations. This inadequacy and unevenness of rainfall gives rise to recurrent crop failures in some areas and keeps other regions desert areas. Indeed, India's whole development effort must be viewed against the background of four interrelated factors which define her present economic position: recurrent acute food shortages, extreme poverty of great masses of the population, rapid population growth, and unemployment as well as underemployment. Only the first of these factors needs to be illustrated here.

Between 1948 and 1953 India imported 19.3 million tons of cereals. The average annual food shortage was 3.2 million tons. At an average cost of about Rs. 450 per ton the total cost and foreign exchange requirements due to food shortages would amount to Rs. 1.5 billion. In the absence of foreign loans (which may have to be serviced sooner or later), the prevention of general starvation and famines for large masses of the population depends upon the

7. See below.

ability to increase the output of food. Moreover, recurrent shortfalls of food represent a continuous threat to the implementation of the industrialization effort upon which depends India's whole development effort and her ability to utilize her increasing idle manpower. It is of course true that the production of food can be increased either by improved techniques of production on land already under cultivation or by expanding the area under cultivation. India's special geographic and climatic situation, together with her rapidly increasing population, makes it imperative not to rely only on the improvement of agricultural techniques. Apart from the fact that India's success with improved techniques has been limited in the past (as judged by relatively stable yield figures), even further improvements of techniques (through greater use of fertilizer, farm equipment, and improved seeds) depend for their success upon an assured supply of water. The only dependable way of establishing a system of intensive agriculture as well as of extending the margin of extensive cultivation seems to be to provide areas which have a low and uneven rainfall with an assured water supply. This can be done only by storing the precipitation in catchment areas which have an abundant rainfall, especially in some of the higher altitudes and diverting this dependable supply of water through canals and distributaries to the areas with inadequate and variable rainfall. In short, what is required is the construction of major dams and reservoirs capable of storing and controlling the flow of important rivers and their tributaries. This is precisely what India has been trying to do under English rule as well as since Independence. In fact, this is what responsible statesmen in India seem to have been trying to do since time immemorial, to judge from the evidence of a vast network of irrigation works and inundation canals not only in the Indus valley and the region of the Jumna river but in South India as well.⁸

What are likely to be the effects of the shift from dry farming to irrigation farming in contemporary India? Any qualitative and quantitative investigation of the direct effects of the irrigation component of river valley projects must be based upon farm management data. For in the last analysis, only farm accounts and farm budgets are capable of disclosing with any degree of quantitative precision what shifts took place in input and output patterns as a result of a perennial supply of water made available by the irrigation projects. We cannot hope that our data, though derived from farm management studies, are complete and always based upon accurate observation. There are inevitable gaps in our information about farm management, particularly in an underdeveloped country like India, and it seems to be impossible to estimate the degree of the possible error in the observations upon which the respective studies are based.⁹

8. Irrigation in India through the Ages, Central Board of Irrigation and Power, Leaflet No. 7, New Delhi, 1954.

9. Having made these general reservations we wish to point out that farm management studies have a long history in India. The Board of Economic Inquiry of the Economic and Statistical Organization of the Government of the Punjab has conducted village and farm management studies for more than thirty years. The Gokhale Institute for Politics and Economics (Poona) published its first farm survey in 1933, and the Economic and Statistical Organization of the (Central) Department of Agriculture is about to publish (1958) a series of up-to-date farm management studies for different states.

However, while it seems to be impossible to estimate the degree of the possible error, we believe that our data err in the direction of an understatement of the possible effects of irrigation farming. This is due to the fact that they relate to cases and conditions in which, for the most part, there was no deliberate plan for many of the subsidiary investments and administrative steps which must be taken in order to make the fullest possible use of the water resources made available by the development project. On the whole, perhaps with the exception of some projects in the Punjab, the policy pursued both under the British regime and in more recent years was that of relative *laissez-faire*. It was up to the individual cultivator to make the necessary adaptation to the new techniques of agriculture called for by the perennial supply of water. If we consider that the cultivators were often ignorant and suspicious, at least during the initial stages of the introduction of the new method of cultivation called for by irrigation, and that there were usually without adequate funds required for such subsidiary investments as the purchase of fertilizers, improved seeds, more and better foodstuffs for draft animals used for longer periods of time, it is reasonable to assume that our data are not fully representative of the total effects which a shift to irrigation farming may achieve. Against this, the economist is likely to raise the possibility of diminishing returns from additional irrigation projects. It could be argued that future irrigation projects are bound to be less productive and more costly than those that have been built in the past. Ultimately the answer to this question depends not only upon an assessment of the irrigation potential (i.e., water and land resources) as compared with the estimated food requirements of a rising population, but also upon the ability to take into consideration the effects of evolving improvements of farm techniques. Diminishing returns is a concept that comes to us from the static framework of classical and neo-classical economics. Dynamic change and technological improvements are precisely the factors which have counteracted the static phenomenon of diminishing returns in the past. In short, static economics must not be permitted to play havoc with the assessment of dynamic growth and development.

III

It is possible to view the whole process of economic and social change from the perspective of a gradual transition from subsistence farming to the production of cash crops. This is ultimately the most important economic and social change that seems to happen in response to the provision of an assured supply of water. For reasons of exposition, however, we have found it desirable to discuss first the changes in the structure of farm production which prepare the ground for the transition from subsistence farming to cash crops.

A. Changes in the Structure of Agricultural Production

Under the climatic conditions of the sub-continent of India, many crops respond to early planting, provided that there is an adequate supply of water. Hence with a perennial supply of water sowing and planting can start earlier than in areas dependent on rainfall. In fact, irrigation in the tropics makes it possible to plant and grow two or even three crops of rice. Many other crops respond to earlier planting. For instance, cotton usually cannot be grown before June; with irrigation planting can start in April. Similarly, the shift to sugar cane has

brought about far-reaching changes in production methods in areas which had no perennial supply of water before. These changes have had the effect of upsetting established patterns of activities. In an Indian village, "agricultural skill is passed on from father to son. Through time and experience the peasants develop a rhythm of production throughout the agricultural cycle in which each participant has a certain task to perform and each operation is allocated a certain date and time. The cultivation of sugar cane upset this established rhythm and it took time and thought before the new crop could be incorporated into the pattern of activities."¹⁰

New crop patterns--More important than the changes in the timing of sowing and harvesting with its attendant modifications of traditional activities and village life is the effect of irrigation on crop patterns. An assured availability of water makes it less risky and more profitable to switch from dry food crops to crops which require more water than rainfall makes available. These are the better quality and higher priced crops such as sugar cane, wheat, paddy, and fodder, as well as garden produce. Whereas the unirrigated farm tends to concentrate overwhelmingly on the production of food crops which in India are largely consumed locally or within the cultivator's own family, the irrigated farm can be shown to concentrate on the more valuable food crops for sale (such as rice, wheat, and sugar cane) and also may turn to fibre crops and fodder (the latter reflecting greater needs for more intensively used draft animals). Table 1 shows this change in crop pattern in the Punjab.

Table 1. Percentage of Crops Grown in Irrigated and Unirrigated Areas, Punjab, 1954-55¹¹

<u>Crop</u>	<u>Irrigated</u>	<u>Unirrigated</u>
Food crops	55	94
Oilseed crops	2	1
Fibre crops	20	-
Fodder crops	23	5

The data are significant inasmuch as they show a greater diversification of crops in irrigated areas as compared to the almost complete concentration on food crops in unirrigated areas. Which of the more remunerative cash crops will be chosen seems to depend upon many factors which can be isolated only by more detailed studies of agricultural location. No single factor, such as climatic or soil conditions, proximity to markets or processing facilities, or traditional skills in the area, is probably sufficient to account for the actual selection of the cash crop. However, once an area has concentrated on a particular crop and the people of the area have acquired the necessary skills, techniques, and

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10. T. S. Trent, "The Nature and Significance of Socio-Economic Studies", Mysore Sakkare, October 1955.
 11. Studies in Economics of Farm Management in Punjab, Report for the Year 1954-1955. The Directorate of Economics and Statistics, Ministry of Food and Agriculture, Delhi, 1957, p. 135.

equipment needed for the cultivation and processing of the crop, there seems to be a tendency for everybody to fall in line with this pattern. The area tends to become a sugar cane area or a paddy producing region or a paddy and wheat producing region, as the case may be. The establishment of a sugar factory or a cotton mill may exert a powerful influence on the crop pattern of the entire surrounding area.

As a matter of fact, whereas the changing and uncertain seasonal conditions prior to irrigation usually call for a certain variety of crops, the availability of water may make it profitable to abandon diversification in favor of one or the other monoculture. Thus, sugar plantations often do not consider it worthwhile to grow anything but sugar cane. Sugar factories likewise favor the specialization on sugar cane by the cultivators in the adjacent areas. In the Mettur-Tanjore area, which is particularly well suited for the cultivation of paddy, the area under paddy has gone up from 38.3 % of the total cultivated area in 1931 to 80.8% in 1951; all other crops show declines, while some of the crops such as spices, vegetables, fruits, industrial and miscellaneous crops have almost completely disappeared.¹² Nor have there been any attempts to experiment with other commercial or industrial crops such as cotton.

B. From Subsistence Farming to Cash Crops

The concentration on higher valued crops sets in motion what is probably the most significant long-run socio-economic influence of river valley projects on the structure of agriculture: the gradual elimination of subsistence farming and its integration into a wider regional and national market. The final outcome of this process is a monetization of exchanges and a commercialization of agriculture which makes the latter dependent upon urban markets and urban supplies of finished products.

The extent of this monetization and commercialization can be demonstrated in a variety of ways. For example, the proportion of income received in the form of money and the expenses met by monetary payments tend to increase in wet farming areas as compared to dry areas. Twenty years after the introduction of irrigation in the Godavari and Pravara canal area (Bombay State), it was found that the disposal of important crops differed radically on irrigated farms from that of unirrigated farms. Whereas irrigated farms sold 70% of their total crop (measured in value) in 1938/39, the corresponding percentage for totally dry farms was 34.5%. The difference is even more striking if expressed in terms of absolute monetary figures. Whereas the total annual receipts of the average dry farmer for produce sold were only about Rs. 200, farmers belonging to the irrigated areas showed a total money receipt of Rs. 1,500 (with Rs. 3,000 in the most intensively cultivated irrigated areas).¹³

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12. S. Krishnamurthi, Pilot Survey of the Influences of the Mettur Irrigation and Hydro-Electric Project on Agriculture and Agro-Industries in Pattukkottai Taluk of the Tanjore District Madras State, Planning Commission Research Programmes Committee, New Delhi, 1948, mimeographed.
 13. D. R. Gadgil, Economic Effects of Irrigation, Poona, 1948, p. 74.

This relative increase of the importance of cash sales has the further effect of replacing, at least in part, payments formerly made in kind (e.g., rent, farm labor, village artisans, and village functionaries) by monetary payments. The irrigated areas show a significantly smaller percentage of payments made in kind to total farm expenses than do the dry areas. It is true, with greater need for farm labor, artisans' and servants' total payments in kind on irrigated farms exceed those made on unirrigated farms. Outlays for other purposes do not seem to show the same uniform trend towards monetization. While the requirements for fertilizer and manure are met by cash purchases by the irrigators (as against an almost complete dependence of the dry farmers upon their own inadequate supplies), the requirements for fodder, seeds and plants are met to a very large extent from their own produce. It is difficult to say whether this means that the transition towards a cash economy has reached some kind of equilibrium short of complete specialization, or whether the survey merely caught a particular point in a continuous process. Even so it remains true that the old system of subsistence farming is replaced by an exchange economy in which payments are received and made increasingly in money. This monetization of farm transactions has the effect of establishing a substantial measure of integration between the region and the rest of the national economy.

Closer integration with the rest of the economy is usually mediated by various middlemen and marketing agencies who will claim a share of the total profits for their services. That is to say, in addition to the traditional money lender, the cultivator is now faced with a group of persons upon whose services he becomes dependent and whose interests do not necessarily coincide with his own. Moreover, there develops a new kind of dependence upon outlets and prices. A drop in the price of sugar may hit the irrigated village economy in essentially the same way as a bad harvest--with this difference: that the latter is perhaps more easily understood than the former.

Another effect of the monetization of farm transactions is the decline of the demand for the services of village artisans such as carpenters, smiths, potters, barbers, and dholis (laundrymen). This seems to be a regular pattern. An increase in purchasing power and easier contact with towns and cities (made possible by improved means of transportation) tends to give rise to a demand for city products and services (plows, pots, pans, barber services, textiles, not to speak of bicycles and flashlights), even though the village products may be perfectly adequate and aesthetically perhaps more satisfying and less standardized. Village studies in India confirm this tendency of villagers to turn away from indigenous artisan products as soon as additional purchasing power combined with contact with urban centers make such a shift possible.

C. The Stabilization of Farm Output

Inadequacy and unevenness of rainfall in unirrigated areas make Indian agriculture a particularly uncertain and risky business, the degree of which can be measured by the extent of crop failures. If the average rainfall during the growing period is inadequate or unevenly distributed, the entire crop or a high percentage of it may never mature and the area suffers famine. Crop failures of this kind can be measured by the percentage of matured crop to total area of cropping. The lower the percentage the greater the extent of crop failure.

In some areas of India the amount and distribution of rainfall are such that agriculture has been aptly described as a "gamble in rains". Whenever the total amount of rainfall or its distribution fails to live up to the requirements of plant growth, crop failures occur to a lesser or larger extent. In the Hissar District (Punjab), where until recently irrigation had not made much headway and where the nature of the soil would not permit the land to bear more than one crop even in years of normal rainfall, available data covering 15 years (1939-1954) indicate that in three years more than two-thirds of the crops failed to mature; in 7 years failures ranged between 41.9% and 71%; and only in one year did 88.2% of the crop mature.¹⁴

In the area in which the 1952-53 study of the potential effects of the Bhakra Dam was conducted, a large part of the crop was lost due to inadequate rainfall. As much as 85.25% of the bajra crop did not mature. Conditions of other crops were only slightly better: 50.58% of jowar (*Sorghum*), 100% of watermelons, 46.7% of Gobar (*Cyamopsis tetragonoloba*); and 12.31% of Mint had failed during the year under report. Many other crops had been complete failures and gram (*Cicer arietinum*), barley, and wheat suffered losses of 86.3% and 85.3%.¹⁵

The social losses of crop failures can be measured either in terms of the value of the crop lost or in terms of the waste of seeds, family and hired labor (wages), and bullock power or the loss of public revenues due to the suspension of the collection of land taxes and the remission of installments of various government loans and substantial expenditures for relief measures to drought areas.¹⁶

By providing an assured supply of water over the entire growing season, irrigation changes the nature of agriculture. Instead of a gamble in rains, farming becomes an activity with a more or less predictable outcome. As compared to the extreme variations in the percentage of crops matured that was characteristic under former conditions, farm output tends to be stabilized by irrigation. The extent of the stabilization can be measured either directly in terms of the percentage of total area under fully matured crops or indirectly in terms of the increased output over a representative period of time long enough to include years of drought and inadequate rainfall. By reducing the risks of uneven rainfall, irrigation makes the supply of foodstuffs and farm output less dependent

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14. R. L. Anand, *Punjab Agriculture, Facts and Figures*. Government of the Punjab, Economic and Statistical Organization, Publication II, Chandigarh, 1957, p. 5.
 15. Gurdit Singh and Swarn Singh, *Effects of Bhakra Dam Irrigation on the Economy of the Barani Villages in Hissar District, 1952-53*, Economic and Statistical Organisation, Government of Punjab, Publication No. 32, Chandigarh, n.d., p. 13.
 16. While no overall statistics seem to be available on these financial losses to the state, a careful reading of the Indian Press supports the conclusion that these losses are not only substantial but a regular phenomenon in most drought areas.

upon the vagaries of the weather and thereby places the whole planning effort including the long-run industrialization plan upon a sounder foundation.

This conclusion finds dramatic support by a comparison of the extent of crop failures in Hissar District in the Punjab, which has a relatively low percentage of total area under irrigation, with extent of crop failures in the Amritsar District, where 90% of the crops are irrigated. During the last 15 years the percentage of crop failures in the Amritsar district never exceeded 7/3% (against a maximum of 71.0% in the Hissar District) and for the most part was 3.8% or lower.¹⁷

D. The Intensification of Farm Production

In order to obtain the fullest possible benefits of irrigation, it is necessary to make more intensive use of human labor, bullock power, fertilizers and manure, and improved seeds as well as farm equipment. More manpower is required for such purposes as clearance, levelling, planting, harvesting, and supervision; draft animals are worked for a longer period during the year and hence consume more fodder and must be fed intensively over a longer period of time. Irrigation crops such as sugar cane and rice require the use of more fertilizers and manure, and these in turn produce the best results only if they are applied in proper proportion with more water and improved varieties of seeds. In short, irrigation calls for a more intensive form of agriculture than dry farming under conditions of normal rainfall. The new pattern of agriculture is reflected in a new pattern of farm inputs and farm expenditure. A study of these patterns of farm expenditures is of considerable importance for an understanding of the economic impact of irrigation, inasmuch as it indicates with some precision the new input requirements called for by the new method of farming. In fact, reliable comparative data on farm expenditures in dry and irrigated areas might enable the Planning Authorities to estimate the new requirements of manpower, of bullocks, of fertilizers, improved seeds and other farm inputs called for by the irrigation component of river valley projects.

An inquiry into the monthly distribution of manual and bullock labor in a dry farm area (Hissar District, Punjab) for 1952-53 shows that the workdays of manual labor for farm cultivation are concentrated largely during the five months from July to November when sowing and harvesting operations are conducted. Hired labor as well as bullock labor follow almost the same course. There is practically complete idleness of manual and bullock labor during the months of December, January, and February.¹⁸ On dry farms the average

17. Anand, op. cit., p. 24. Needless to add, a low percentage of crop failures does not mean absence of fluctuations in real output or variations of monetary yields due to changes of crop prices, which in a cash economy determine the relative success or failure of the farm enterprise. Hence, low percentages of crop failures are not equivalent to stability of farm earnings, particularly if the cash crops have a higher yield variability and are subject to greater price fluctuation than the crops grown before irrigation was introduced.

18. Singh and Singh, op. cit., p. 28.

number of days worked per year is not more than 153.9, or, expressed in different terms, the average number of hours worked per day is 3.37 hours.¹⁹ By extending the period of cultivation and by making it less dependent upon seasonal rainfall, irrigation has the effect of spreading work more evenly over the entire year.

Moreover, irrigated crops call for a much more continuous and intensive use of manual labor and bullock power. In the two districts which were the subject of a special cost accounting and survey sample in the Punjab in 1954-55, it was found that while the use of human labor on unirrigated crops per acre was 12 adult man days²⁰ per year, the employment of human labor on irrigated land was about 24 man days. Similarly, the use of bullock power showed a substantial increase on irrigated cropped areas as compared with dry areas (18.7 against 11.6 days of 8 hours). Whereas about 90 percent of the total man days on unirrigated cropped areas are contributed by family and exchanged labor, only 82 percent are provided in this fashion on irrigated land. That is to say, the percentage of hired labor²¹ increases from 10 to 18 percent. Whereas unirrigated areas make use of hired labor only to the extent of 1.3 man days per acre, the irrigated areas used 4.1 man days or more than three times as much hired labor.²²

In this connection Gadgil's earlier study of expenditure data is still of interest. While total outlays for paid (casual and contract) labor in the Godvari area (expressed as a percentage of total farm expenditure) were only slightly higher on irrigated farms (5.7% as against 5% on unirrigated farms), the irrigated farms showed a much lower percentage of hired labor paid in kind than did the unirrigated farms.²³

Our own inquiries and information obtained in several areas affected by irrigation schemes (Mandya in Mysore, Chalakudy in Kerala, Erode in Madras) support the thesis that a perennial supply of water makes for more as well as

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19. *Ibid.*, p. 29. These figures which apply to a specific district in the Punjab are merely an illustration of the general problem of underemployment in India. For the country as a whole, recent estimates indicate that 30 million people are engaged in gainful work for five days a month; 40 million for less than 10 days a month and about 53 million for less than 15 days a month. *Economic Weekly*, January 17, 1959, p. 71.
 20. An adult man day is equivalent to 8 hours per day.
 21. Hired labor includes besides farm servants engaged for long periods on farms, also all types of casual labor of men, women, and children engaged in rush periods for harvesting, sowing, or bringing in of crops, or picking of cotton or vegetables.
 22. All data cited in this paragraph are from *Studies in Economics of Farm Management in Punjab*, *op. cit.*, pp. 73-79, Tables 4.25, 4.26, 4.28, and 4.25. For definition of units of measurement see Para. 4.26.
 23. Gadgil, *op. cit.*, p. 49.

more continuous employment. In some of the irrigated areas of Southern India, it has become an established practice to import migrant labor from adjacent non-irrigated farming areas during the planting, weeding, harvesting, and threshing phases of rice cultivation when a maximum effort is required to handle the crop.

While there is still unemployment and underemployment in irrigated areas, this must not detract from what might be called the employment effect of irrigated farming in India. The impact of river valley projects on employment during the construction period has probably been exaggerated if we consider the need for capital intensive work processes called for by the building of dams and reservoirs; however, the contribution which the irrigation component could make to the absorption of the unemployed and underemployed in rural India after the completion of these projects has not been sufficiently stressed. This effect on rural employment which results from the greater intensity of farming made possible by irrigation must have a more lasting and significant effect on employment than the construction of the dam. Bullocks are used for a longer period of time during the year; as a result there is a higher demand for fodder crops to sustain the more intensive use of draft animals. In addition to human labor and the use of animals, there are other important expenditures which figure prominently in the expenditure account, and are significantly higher on irrigated as compared with unirrigated areas. A detailed break-up of these expenditures is shown in Table 2.

Table 2. Break-Up of Expenditures for Different Farm Inputs
for Crop Production per Acre on Irrigated and Unirrigated
Land, 1954-55, in Rupees²⁴

	<u>Irrigated</u>	<u>Unirrigated</u>
a. Human labor		
Family and exchanged	34	16
Hired	11	3
	<u>45</u>	<u>19</u>
b. Bullock labor	37	19
c. Seed	9	6
d. Farm yard manure	5	-
e. Fertilizer	2	-
f. Interest on fixed capital	3	2
g. Depreciation on implements	6	3
h. Artisans	2	2
i. Rent and rental values of land	58	26
j. Land revenue	2	2
k. Irrigation charges	9	-
l. Miscellaneous	-	-
Total value of inputs per irrigated acre held	178	79

24. Studies in Economics of Farm Management in Punjab, 1954-55, op. cit., pp. 73-74.

The higher input of human labor and bullock labor is clearly reflected in the higher expenditures for items a and b. Whereas there are assignable input values for manure and fertilizer on irrigated areas, there are apparently no such input items on unirrigated farms--a clear indication of the greater intensity of cultivation under condition of irrigation. Also it is interesting to note that rent and rental value of land increases in proportion to total outlays; in both cases, this item amounts to roughly 33% of total outlays. That is to say, while the absolute amounts paid to landowners are increasing from Rs. 26 to 58, the relative share (as a percentage of total farm expenditures) received by the owner does not seem to be affected in one way or another by the intensification of farming called for by irrigation. Since the landlord is usually not a partner, even in a small way, in irrigated farming and does not make payments for land improvements, his increased rental income is for all practical purposes "unearned" and hence should be available for land taxes and water rates.

Irrigated land also shows a higher intensity of cropping as compared to unirrigated areas. There are unirrigated areas in India in which there would be considerable scope for an extension of the cultivable area by reclaiming uncultivated but cultivable waste land. Gadgil's data revealed a considerably lower percentage of "current fallow" and "uncultivated waste" on irrigated as compared to unirrigated farms (4.5% versus 11.7% current fallow and 0.8% to 2.1% waste). The percentage of total uncultivated area was 13.7% on irrigated farms as against 15.7% on unirrigated farms.²⁵ In the area of the Mettur-Tanjore project (Battukkottaitaluk) the percentage of cultivated area has shown a steady increase between 1931 and 1951. It now amounts to 46.8%, against only 26.1% in the non-project area. While the area brought under new cultivation has increased by 43.9%, there is evidence that the area should be further increased if the available water were used more economically by the farmers in the project area.²⁶

It would be wrong to believe that the data presented in this section represent a measure and an approximation of the potential intensification of farming which irrigation is likely to render possible in India. This is made particularly clear by Krishnamurthi's study which leaves no doubt that the intensification of farming is still far from what would be called for by modern methods of agriculture.²⁷ If Krishnamurthi's findings are indicative of conditions in other areas

25. Gadgil, *op. cit.*, p. 27.

26. Krishnamurthi, *op. cit.*, pp. 71-72.

27. Very few improvements in cultivation practices have been introduced in the area of the Mettur-Tanjore Project. For instance, the practice of green manuring has not been introduced. Only 1.2% of the total paddy is of the improved strain. There was only one instance of the Japanese method of rice cultivation. Only 8% of the total area under paddy in Battukkottaitaluk received an effective dose of ammonium sulphate in 1954-1955 when the campaign for the use of ammonium sulphate was at its peak. The proper application of green manure and ammonium sulphate alone would lead to substantial increases in yields.

affected by irrigation projects it stands to reason that there must be a wide gap between the actual and the potential benefits obtainable from irrigation in India.

E. Increased Productivity

Any assessment of the impact of irrigation on yields and output is complicated by the fact that water is only one factor among many that determine yield and output. Of the other factors only the following may be mentioned: the use of manure and fertilizer, the utilization of improved varieties of seeds, especially seeds that yield crops in a shorter growing period, crop rotation, proper planting, and adequate cultivating. Maximum results are obtainable only by a combination and proper proportioning of the various factors. Furthermore, there are special statistical problems and conditions which make it hazardous to generalize from official yield data in India that are calculated by dividing total output by total acreage. First, there is the possibility of systematic underestimation of output due to the cultivator's interest in not disclosing the full magnitude of his harvest. This applies particularly to wartime data when compulsory collections were either practiced or feared. Second, any shift to the more highly priced cash crops has the effect that less valuable crops are grown increasingly on the less advantageous soil. And third, India has been forced to expand the area of cultivation on marginal land yields very poorly in the absence of improved methods of cultivation. For all these reasons yield data derived by dividing total production by total acreage convey the picture of India as a country where soil fertility has been stabilized at an exceedingly low level.²⁸

In the light of the foregoing considerations it must be evident that comparative yield data on irrigated and non-irrigated tracts cannot be accepted for the time being as reliable measures of either the actual or the potential benefits of irrigation in India. The total potential effects of irrigation on yields and output can be ascertained only under controlled conditions where it is possible to experiment with modern techniques and methods in accordance with our contemporary knowledge of agronomy. Sugar cane, paddy, wheat, and jowar grown in experimental farms in India show average yields that exceed by more

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28. It is interesting to note however, that yield data derived from actual crop cutting surveys in specific areas and States show a more favorable situation. While they still show considerable variations of yields, reflecting mostly variations in rainfall, and while yields are still low, there is nevertheless some indication of a rising trend. The method of ascertaining yields by crop cutting surveys has been introduced as an experimental measure and will be utilized for framing official estimates of yields for each crop and each State only after it has been more firmly established. This information and preliminary tables showing yields for different crops based upon crop cutting surveys were made available to me by Dr. R. S. Sen, Economic and Statistical Adviser, Ministry of Food and Agriculture, Government of India. I also wish to acknowledge a discussion of this subject with Dr. Panse, Indian Council of Agricultural Research, Statistical Wing, Government of India.

than one hundred percent the yields obtained by farmers in adjoining areas. While it may be unrealistic to use yield data on experimental farms as the basis for calculations of the potential benefits of irrigation, it is certainly not more realistic to appraise the benefits of irrigation simply in the light of yield data which do not reflect the level of output which modern agricultural knowledge and techniques could open up to the Indian farmer. This is not to deny that the "soundness" of a loan advanced for the construction of an irrigation project depends upon actual rather than potential yields and output which modern technology has placed within reasonable reach. What is questioned, however, by the foregoing observations is whether the bankers' test of the soundness of the loan measured in terms of present yields and output is an adequate test of the socio-economic justification of the project. If India were to confine herself to the construction of river valley projects that are financially sound in terms of present backward practices and yields she may never be able to create the preconditions for an agricultural system that is capable of providing the necessary supplies of food and farm commodities for her urban communities and export requirements.

Yields on irrigated and unirrigated tracts -- Available data on differences of yields on irrigated and unirrigated tracts show differentials of more than 100% for specific crops. For wheat, the most recent data from the Punjab indicate that whereas unirrigated tracts do not produce more than 4, 3 to 7, 7 maunds per acre, irrigated areas have yields of from 12, 9 to 13, 5 maunds per acre.²⁹ Pre-Independence estimates of average yield differentials on dry and irrigated lands vary from area to area. They range from 572 lbs. per dry acre to 967 lbs. per irrigated acre in the Punjab, and from 510 lbs. per dry acre to 1, 250 lbs. per irrigated acre in Bombay state.³⁰ For rice the Punjab shows the greater variation (587 lbs. as against 1, 269 lbs.), whereas the estimates for Madras State show yield differentials per acre of 1, 138 to 1, 694 lbs. In the more recent pilot survey conducted in the Tanjore District, it was found that the provision of irrigation through the Mettur Project "has by itself almost doubled the yield of paddy (rice in the husk), the average yield being 39 kalams per acre in the canal fed area and 20 kalams in the non-project area".³¹ Even more significant differentials of average yields on dry and irrigated lands are reported for such important crops as jowar, ragi (a millet), gram, and barley in the Deccan.³²

It is not necessary to comment in detail on these increases of average yields and output made possible by irrigation. Suffice it to emphasize merely that unquestionably irrigation is the strategic factor without which these in-

29. Studies in Economics of Farm Management, *op. cit.*, pp. 85, 95.

30. W. Burns, Technological Possibilities of Agricultural Development in India, Lahore, 1944, p. 56.

31. Krishnamurthi, *op. cit.*, p. 73.

32. M. L. Champhekar, A Note on the Assessment of the Direct and Indirect Effects of Irrigation, Bombay, 1950, p. 26.

creases in yields and output would not have occurred. This is not to say that the increase in the supply of water is the only factor responsible for the improvements of farm yields and output. Certainly there were improvements in techniques of farming, such as the use of fertilizers, manures, improved seeds, new methods of planting and cultivation, which contributed to the final outcome; and it is important to realize that these improvements in techniques represent additional farm investments called for by irrigation farming. In this sense, the increased yields and outputs are not the net result of investments in irrigation but are the combined result of the joint investments in irrigation and improved techniques of farming.

The second point to be emphasized is related to the fact that actual increases in average yields and output in a particular region do not necessarily represent the limits of agricultural improvements. On the contrary, in view of the fact that in many areas under irrigation the utilization of water is still far from complete, and that improved techniques of agriculture are still the exception rather than the rule,³³ it is safe to conclude that actual yield improvements represent merely a fraction of the potential benefits obtainable from irrigation. In this connection, it is of interest to note that the reported extraordinary rapid increases of 60 to 90 percent in one year in the harvest for a continent the size of China are attributed (by Professor Rene Dumont, United Nations Technical Expert in India) to irrigation as the decisive factor and the use of natural and organic manures rather than chemical fertilizers as the secondary contributing factor.³⁴ The fact remains that India has so far not been able to make any rapid progress in agricultural output even when and where additional water was available for irrigation.

F. Effects of Irrigation on the Size of Holdings and Number of Farm Units

What is the effect of irrigation upon the structure of land ownership and tenancy? What is likely to happen to the average size of holdings and to the number of farm units? It is difficult to formulate unequivocal answers to these important questions. As far as the relative size of holdings is concerned, the available statistical evidence seems to support the conclusion that the average size of farms is likely to increase, and correspondingly, the number of farm units to decline. In other words, irrigated farming may ultimately lead to a consolidation of holdings. Gadgil's investigation, which was undertaken more than 20 years after irrigation was first introduced in the Pravara and Godavari irrigation project, showed that the average size of the 193 irrigated farms was nearly 40 acres and above the average of 33 acres in the control group of the 198 dry farms. But these findings may simply reflect the fact that the smaller units found it more difficult initially to convert to irrigation farming. Probably this is the reason why Gadgil merely advanced the negative thesis that the number of farm units do not seem to increase with irrigation.³⁵

33. See Krishnamurthi, *op. cit.*, pp. 75-77.

34. *The Economic Weekly*, Bombay, January 17, 1959, pp. 60-61.

35. Gadgil, *op. cit.*, p. 115.

A general tendency of the average size of irrigated farms to increase (and the number of farms to decline) could be inferred from data showing the relative profits and losses per irrigated acre held, classified according to size groups. The limitations of such calculations stem from the familiar necessity of imputing costs to the smaller size groups which work more with non-contractual family labor and less with contractually hired labor. To charge the smaller sized farm with the opportunity wages available on adjoining tracts--which may be correct statistical procedure--may have the effect of overstating their input costs. At the same time the proportion of total output devoted to the meeting of the minimum requirements for family needs and fodder for livestock is greater on smaller farms than on the larger farms, which once more makes it necessary to impute output values and opens the way to overstating the losses on the former. Nevertheless, the fact remains that the larger the size of the farm the greater the proportion of land devoted to the more remunerative cash crops (such as cotton, wheat, sugar cane, rice), and this must account for their greater profitability. Detailed cost accounting samples showing profits and losses per irrigated acre of land classified by size groups in the Punjab support the conclusion that returns per acre exceed costs per acre only for farms of 50 acres or more, and that losses per irrigated acre held decline as the size of the farms increase.³⁶ If these data are representative of the relative cost and return situation for different holding size groups they would seem to point to the conclusion that in order to be profitable irrigated farming requires larger holdings and ultimately tends toward the consolidation of smaller holdings.

Experiences in Montana indicate that high irrigation costs on smaller size holdings may lead to bankruptcy and to a subsequent consolidation of holdings. The average size of irrigated farms in Montana increased from 125 acres in 1919 to 223 acres in 1935. The average size of farms owned increased from 82 acres in 1919 to 157 acres in 1934.³⁷ These data would lend support to those

36. The following table summarizes the results of a cost accounting sample survey of the Amritsar and Ferozepur Districts in the Punjab (quoted from *Studies in Farm Management in the Punjab 1954-1955*, op. cit., p. 63):

Table 3. Input, Output and Profit and Loss per Irrigated Acre held, by Size Group, 1954-1955

Holding Size Groups (Acres)	Input Rs.	Output Rs.	Profit or Loss Rs.
0- 5	228	173	-55
5-10	208	184	-24
10-20	184	181	- 3
20-50	178	176	- 2
50 and above	141	147	+ 6

37. P. L. Slagsvold, An Analysis of Agriculture on the Valier Irrigation Project, Montana State College Bulletin No. 330, Bozeman, Montana, December 1936, p. 25.

who argue in favor of larger farm holdings in order to stabilize farm practices at a higher level of productivity and efficiency. The social effects of a trend toward larger holdings in India would be an increase in the number of landless workers who would have to seek employment either on the larger farms or in urban industries. In short, as in the case of other investments, the ultimate benefits of the irrigation component of river valley projects may be distributed rather unevenly and may give rise to far-reaching social dislocations for great masses of cultivators and village inhabitants.

H. Other Direct Effects

There are other important direct effects of irrigation which are frequently overlooked in discussions of the overall effects of irrigation. Their full significance can be understood only in the light of the fact that there are areas in India where shortages of water are regular occurrences during the dry season. The water table in these regions may be as low as 300 feet below the ground. Shortages of water threaten people and animals alike. Indeed, without an adequate supply of water the raising of cattle may be out of the question. In some areas and years the situation may become so acute that whole villages and communities must resort to rationing the available water or must fetch water from sources several miles away. In Northern Rajasthan water is said to be so brackish that people go a distance of 40 to 50 miles (sic!) for getting drinking water.³⁸ Irrigation projects prevent calamities of this sort by making available an assured supply of water for drinking and cattle farming throughout the year. By raising the ground water level even in the non-project area, they have the further effect of reducing the costs of well-digging and thereby make it possible to extend the area under cultivation in zones that are not directly in the area of the project. These benefits of irrigation are typically of the nature of social utilities which have the tendency of diffusing themselves among the people within a particular region. The fact that they are social utilities in this sense does not make them in any sense less real and less important than the benefits which can be appropriated individually.

Conclusion

Admittedly the foregoing account is an incomplete picture of the total repercussions of river valley projects in underdeveloped countries. As we indicated from the very outset, we were not concerned here with the indirect or secondary effects which the change in the structure of farm production and the transition to cash crops may have on the structure of production and distribution in the surrounding area. Nor have we paid attention to the socio-cultural impact which the shift to cash crops may have upon the social structure and the world outlook of the population affected by the project. The preceding account is incomplete also insofar as it does not deal with such social costs as water logging, increased soil salinity, and irrigation-induced malaria which may be caused by a perennial supply of water in formerly dry areas in tropical or semi-tropical regions.

38. According to Mr. Karni Singh's statement in India's Parliament. See Hindustan Times, March 26, 1958.

While it is possible to indicate the general direction of the economic changes which a perennial supply of water might bring about in an area formerly dependent upon an inadequate and uneven supply of rainfall, a complete and detailed ex ante forecast of the repercussions of a given project is not possible.

In the first place, there is the fact that each project and each region has its unique physical characteristics. Topography, soil conditions, water table, climate, stream flow, population density, and the amount of unutilized land are likely to differ from region to region. A densely populated area like the Punjab will show different effects as compared with the impact of irrigation in a sparsely populated area like the region around the newly planned Rajasthan Canal. Obviously these difficulties are not unsurmountable. Regional surveys of the physical characteristics of a given area with particular emphasis on their significance for the irrigation and production potential of the area can throw considerable light in these questions. This is precisely the objective of the engineering surveys which are usually carried out prior to the selection of alternative sites for river valley projects. In this connection, one could perhaps hope for a closer cooperation between engineers, agronomists, and soil experts--not to mention the malaria expert.

But even if we had all the relevant data on the physical potentialities of a given region, there would still be a second uncertainty: namely, the fact that the effects of an irrigation project, especially in an underdeveloped area, depend also upon the responses of the rural population to the opportunities offered by the new productive factor. Will farmers be willing and able to make the necessary subsidiary investments called for by the new technique of farming? How will different sections of society respond to the additional output and income? Will cultivators work more, or will they work less? Questions of this sort can be answered only by persons thoroughly familiar with the typical response pattern of the rural population in the different parts of India and the reasons why these responses have not always lived up to expectations. Sociologists, anthropologists, agricultural extension workers, and irrigation administrators may have to be called upon to fill this gap in our knowledge, in order to enable us to anticipate correctly the effects of a perennial supply of water. It goes without saying that knowledge of the response (or lack of response) to the new technique would enable the planning authorities to provide the administrative organization designed to secure the necessary adaptations and acceptance of the innovations (e.g., new inputs, tools, fertilizers, improved seeds, etc.).

This brings us to a third reason why the effects of the irrigation component of river valley projects are not simply a function of the available water and land resources. As the experience of India indicates, these effects depend also upon the economic and administrative policies pursued by the government authorities. A policy of relative laissez-faire will give rise to different results than a policy of deliberate planning and appropriate administrative measures that are called for by irrigated farming. There are strong reasons to believe that in addition to an ingrained inertia and the widespread inclination to gamble in rain, inadequate planning of the distributaries and the tendency of charging high water rates in an effort to recoup the initial outlays is a relatively short time have acted as obstacles to a speedy transition to irrigation farming. In other words, here again the effects of irrigation will depend upon variables

which cannot easily be anticipated. However, the practical implications are clear. The job of the planning and irrigation authority is not finished with the completion of the dam and the storage of water. In order to assure the speedy utilization of the new capital investment and through it the maximum economic advancement of the region, it is necessary for the planning authorities to see to it that the strategic processes described in this article get under way with a minimum of delay, with a view toward setting into motion a cumulative process of economic development in the region.

Fourth, the full effects of any component of a multipurpose project depend also upon the interaction of the effects of any single purpose with those of all the other components. For instance, the availability of electricity may make it possible to supply the region with supplementary lift irrigation by electrically driven pumps and may provide a convenient and flexible source of power for village (cottage) as well as urban industries engaged in the processing and transformation of the agricultural raw materials. In short, the overall effects of any truly multipurpose project depend upon the effective coordination of the several components of the project. Finally, it stands to reason that the stimulating impact of any project depends upon the magnitude of its expansionary effects, as compared with the stagnation effects which have kept the region in a backward stage in the past.

It will be argued that without a detailed and precise forecast of the effects of a given river valley project it is impossible to arrive at a rational judgment of the relative worthwhileness of alternative investment projects. Indeed the question may be raised whether heavy capital investments absorbed by river valley projects in underdeveloped areas may not yield higher returns if allocated to such alternative uses as the improvement of agricultural techniques, better farm management, farm credit, farm marketing, and the extension of domestic and foreign markets. If we had the unequivocal answers to questions of this sort, the process of economic planning and resource allocation could be considerably simplified. Unfortunately, we are still far from the point where answers to questions of this kind could be advanced with any degree of certainty. The difficulty is not only that the total effects of irrigation are not known, but that the effects of the alternative investments cannot be easily estimated, either, with the precision that would be desirable. There is no scarcity of investment outlets in a country like India, and it is doubtless important to consider these alternative outlets. But what are and how can we compare the actual effects of investments in improvement in agricultural technology and farm management in a country like India? There is doubtless great need for an improved farm credit system that could take the place of the present system of moneylending at heavy interest rates. But what are the political chances for such reforms, and how will they be received? What are the probable returns of investments in agricultural extension, farm marketing, and perhaps a policy of guaranteed prices for specific crops? The same uncertainty surrounds investments in rural education, improved communications, and an effective campaign in favor of birth control in villages. While it is relevant to keep in mind that there are many ways of increasing the supply of food, it would be a fallacy to believe that we possess the knowledge of the actual effects and benefits of alternative measures with any higher degree of precision and certainty than is the case with reference to the effects of river valley projects. In fact, many of these alternative investments

are of the nature of social returns and external economies which tend to diffuse themselves throughout society. Furthermore, in a country like India with an inadequate and uneven rainfall and a rapidly increasing population in virtually all rural areas, neither improvement of farm techniques and farm management, nor concentration of production in a few surplus areas with comparative advantages (in terms of farming costs), would remove the obstacles which recurrent food shortages place in the way of economic growth and development. For even improvements of farm techniques could not overcome the cultivators' dependence upon an assured supply of water; and the concentration and intensification of farm production in a few areas with comparative (farm) cost advantages would still leave the shortage areas unsupplied, because the available overtaxed transportation system would not be able to handle the additional traffic. That is to say, the problem of food shortages could find a solution only at heavy additional social expenditures for transportation, which are usually left out of account by the critics of those who advocate long-run investments in regionally distributed river valley projects with admittedly long gestation periods but also a high degree of stability as to their capacity to provide a dependable supply of water throughout the year or the growing season.

Finally, it must be remembered that irrigation is only one of several components of most multipurpose projects, and that such projects are usually part of a general development plan. To judge the irrigation component in isolation, i.e., in terms of benefit-cost ratios, instead of within the context of the specific and the general social goals pursued with each of the components, is arbitrary and self-defeating. This is not the place to go into a detailed discussion of the variety of purposes and social goals of river valley projects. Suffice it to say that the economist *qua* economist disposes of no knowledge which enables him to reject *a priori* any of the social goals usually pursued by river valley projects. To apply the yardstick of the market to these goals is merely to repeat what we already know, namely, that the market has the tendency to neglect the long-term social benefits and to concentrate production in a few areas to the exclusion of others. If these other areas are nevertheless densely populated (as they are in India), if coal deposits are concentrated in one or two regions, and if the transportation system and the development of other overhead capital equipment has long been neglected (as in India), the goal of regional development by providing an assured supply of water for irrigation and electricity for cottage as well as urban processing and manufacturing industries cannot be rejected as unreasonable. The criteria of judging the reasonableness and worthwhileness of such investments can be found only in terms of a comprehensive and informed theory of cumulative growth, which will have to be based upon the substantive knowledge of the actual, i.e., physical production relationship and outputs which can be set in motion by the new capital investment.

CONSIDERATIONS ON AN INTERNATIONAL ADMINISTRATIVE SERVICE*

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Introduction

Hardly anybody will nowadays dispute the importance of the role played by public administration in the implementation of economic development programmes. In view of this strategic posture of governmental action vis-a-vis the process of development, it is imperative that the administrative apparatus should function as an efficient tool at the service of states aiming at the general welfare under the rule of law. This necessity has for some time already deserved international recognition through the United Nations technical assistance programs, which include the improvement of national systems of public administration.

The present essay constitutes an attempt to clarify some of the highly controversial issues involved in a particular aspect of this scheme, namely, the proposed establishment of an "international administrative service", as initially suggested by the Secretary-General of the United Nations, Mr. Dag Hammarskjöld, on May 30, 1956, in an address delivered at Montreal. These

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- * Although the author is on the staff of the Brazilian Institute of International Relations, the opinions expressed hereinafter are purely his own, and should not by any means be construed as reflecting the views of the Institute or of any of its members.
1. Cf. Dag Hammarskjöld, "Self-Determination and Economic Assistance for Under-Developed Countries", Twenty-Four Economic Essays in Honour of Eric Lindahl, Stockholm, 1956, pp. 77-86. And the following UN documentation: United Nations Press Release SG/482, 29 May 1956. Cf. also: UN Note to Correspondents, Nos. 1319 (8 June 1956) and 1354 (2 August 1956); UN Review, July 1956, pp. 10-12 and November 1956, p. 4; Introduction to the Annual Report of the Secretary-General to the General Assembly (XIth), 4th October 1956, (Doc. A/313F/Add. 1), p. 5; Memorandum by the Secretary-General to the 24th Session of the Economic and Social Council (ECOSOC), 10 June 1957 (Doc. E/3017); and UN Press Release SG/668, 2 April 1958; in the last phase of the evolution of IAS idea, culminating in its final approval, the Secretary-General's Memorandum to the Second Committee of the General Assembly is relevant in summing up the whole problem (cf. A/C.2/200, of 16 October 1958). It may be worthwhile to point out that already in 1949 Mr. Trygve Lie had advocated bilateral exchanges of civil servants for study and work assignments in administrative problems: vide Report by the Secretary-General to ECOSOC, 9th session, "International Facilities for the Promotion of Training in Public Administration", (Doc. E/1336, 18th May 1949), p. 8.

proposals, which are the culmination of a series of similar recommendations and practical experiments rather than radical departures from precedent, may be epitomized as follows:

Since a sound public administration is a vital prerequisite in any process of economic progress of underdeveloped areas, and considering that the size and quality of an administration are essentially determined by its human components, it follows that countries lacking an adequate number of trained public officials--and this is the prevailing condition in these countries, especially in the new states--will have their development seriously impaired, especially during the crucial "take-off" period, unless they can secure personnel from outside. For this they ought to be able to draw freely upon a pool of highly competent and understanding administrators recruited on an international basis and endowed with influence and authority to implement their own recommendations, pending the gradual training of national officials capable of replacing them in advantageous conditions. The gist of the plan resides in the fact that, whereas it aims at a maximum of integration of the foreign administrators within the framework of the governments they are to serve, they would retain their international status.

One cannot but concur in Mr. Hammarskjöld's bold approach to the problem of administration for development. In the light of earlier statements, however, and with the support of empirical evidence, one may question the practical feasibility of the plan, particularly with reference to the sensitive areas of governmental policy making.

II. Evolution of the Concept

While it would be difficult to find any instance quite coincident with the Secretary-General's proposals, there are examples to which they can be traced back: in the 19th century, under the Capitulations regime in the Ottoman Empire, there were European public officials handling much of the administration in the Levant, as well as in the Far East, while similar functionaries were to be found in other parts of the world (Persia, Ethiopia, Central America); more recently, the Italian organizzatori in Albania provide another illustration of bilateral arrangements. Under the sponsorship of international organizations, one may perhaps count the Commissioners in charge of the League of Nations' reconstruction loans, and certain UNRRA missions.

Within the general framework of technical assistance as evolved by the United Nations, attention has for some time been focussed on the adjective aspects of public administration--such as budgeting, finance, personnel management, organization and methods, procurement, documentation, etc.--which are instrumental to the smooth functioning of government operations as a whole, and therefore essential for the implementation of policy in the substantive fields, and especially with regard to comprehensive development plans, which present particular problems. The UN Technical Assistance Administration (UNTA), in response to the urgent need, felt by most underdeveloped countries, for sufficient numbers of administrative personnel, at the highest and intermediate levels of hierarchy, competent enough to man proficiently the cumbersome machinery of state, found a pioneering solution: the transplantation of foreign experts to be

put in charge of both adjective and substantive operations until local administrators could acquire the necessary know-how to assume their management themselves. This is, in a nutshell, the significance of the Bolivian experiment.

A. The Bolivian Experiment

The Bolivian Government having submitted a request for a survey team from the United Nations, a provisional agreement was negotiated in La Paz for rendering technical assistance to that country. Shortly after the presidential elections of May 1951, the government acceded to the recommendations of the UN experts; accordingly, on October 1, 1951, an agreement was signed whereby foreign "Administrative Assistants" were to be appointed to specific key posts "of influence and authority", in the general and economic administration of Bolivia, as integral members of the country's civil service.² They ranked as Oficiales Mayores, the equivalent of ministerial sub-secretaries; in addition, there was created a position, within the office of the president, of Coordinator General for International Personnel in Bolivia, having as his counterpart a special representative of the UN Secretary-General, to be available for consultation with the president of the republic and his ministers, and to keep himself fully informed on the development of the program, which provided for ten administrative assistants, distributed by the various ministries, the Central Bank, and the office of the comptroller-general.

Political unrest in the country led to an uprising in April 1952, and the new President of the Republic, Mr. Paz Estensoro, while favorable to the continuation of international technical assistance, found it incompatible with national sovereignty that foreign personnel should be endowed with executive, decision-making authority (which, however, was not final), and as a consequence the agreement of 1951 had to be revised. The new instrument, dated May 2, 1953, changed the titles of administrative assistants to that of "Technical Consultants" and limited their functions to an advisory and consultative character. Notwithstanding this formal change in status, it seems that even after the uprising, and thanks to the good relations obtaining between the government and the United Nations mission, foreign experts continued to exercise substantial discretion to carry out their recommendations. Emphasis was laid on assistance in execution, and despite major economic difficulties severely handicapping the country's development, the international personnel in Bolivia were rewarded with

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2. Recommendation No. 1 of the Keenleyside mission. Cf. Report of the United Nations Mission to Bolivia, New York, 1951, p. 3 (Public. ST/TAA/K/Bolivia/1). Cf. also; W. S. Sharp, International Technical Assistance, Chicago, 1952, p. 94; C. Goodrich, "Bolivia: Test of Technical Assistance", in Foreign Affairs 32 (3), pp. 475-481, April 1954; A. Lepawsky, "The Bolivian Operation: New Trends in Technical Assistance", in International Conciliation 479:103-123, March 1952; and "Technical Assistance: A Challenge to Public Administration", Public Administration Review (Winter 1956), pp. 25-26; UNTAA, TAA Bulletin (ST/TAA/Ser. b/15), Nov. 1951, pp. 3-4: "Internationally Recruited Officials to aid Bolivian Administration".

the implementation of an appreciable proportion of their advice, including administrative reforms and the drafting of legislation to establish a permanent civil service.

Of this whole venture, it is important to remember that the foreign experts, though recruited by the United Nations and having their Bolivian civil service salaries supplemented by the international organization, were in fact answerable solely to the Bolivian government. This experiment was a short-lived one; and although Mr. Trygve Lie, while Secretary-General of the United Nations, hoped that it would be "watched throughout the world by Governments where similar conditions exist,"³ it was never quite repeated in actual practice.

There are a few other instances of officials recruited by or through the United Nations and in the actual employment of national administrations: Libya is such a case,⁴ and other instances are reported to have occurred in Afghanistan,⁵ Indonesia,⁶ and elsewhere.

B. Theoretical Proposals

Mr. Hammarskjöld acknowledged the contribution made to his own proposals by previous suggestions of prominent statesmen such as Mr. Lester Pearson, Canadian Secretary of State for External Affairs,⁷ and Mr. Christian Pineau, French Minister of Foreign Affairs.⁸ Although he did not quote them

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3. TAA Bulletin, *op. cit.*, p. 4.
 4. Cf. F. J. Tickner, "The Improvement of Public Administration", *United Nations Review*, Sept. 1955, p. 50; A. N. Lockwood, "Libya--Building a Desert Economy", *International Conciliation*, No. 512, March 1957, pp. 335-337.
 5. Quoted by P. G. Franck, "Technical Assistance through the United Nations--the U.N. Mission in Afghanistan, 1950-53", in H. M. Teaf, Jr. and P. G. Franck, eds., *Hands across Frontiers--Case Studies in Technical Co-operation*. Ithaca, N. Y., 1955, pp. 21, 33, 38.
 6. Cf. B. Higgins, *Indonesia's Economic Stabilization and Development*, New York, 1957, pp. 40-47. A pattern similar to the Indonesian one is reported to obtain in Burma (private communication from Prof. Everett Hagen, of the MIT Center for International Studies).
 7. Address to the Canadian Red Cross Society, Toronto, Branch, 12 March 1956. Cf. Canada, Department of External Affairs, Information Division, Statements and Speeches No. 56/6, "New Aspects of International Competition", Ottawa.
 8. Plan presented to the NATO Council, 4 May 1956. Cf. Ambassade de France, Service de Presse et d'Information, French Affairs No. 31, "French Government Proposes Creation of an Agency for World Economic Development", New York, 1956.

explicitly, his proposals partially derive from, among others, Mr. V. K. R. V. Rao's motion at the sixtieth meeting (March 1949) of the ECOSOC Sub-Committee on Economic Development, of which he was Chairman, for an "United Nations Economic Development Agency".⁹ All these schemes, and likewise a recent General Assembly resolution [1219 (XII)], are chiefly concerned with the modes of financing of economic development plans, but also contain some allusion to international personnel for the implementation of these plans. Mr. Pearson, in particular, called for an expansion and increased internationalization of present arrangements for the provision of technical and scientific experts for service in materially underdeveloped areas; he raised the question, "Why should we not consider establishing an International Professional and Technical Civil Service under the United Nations, with experts specially trained for work in these underdeveloped areas?"¹⁰ M. Pineau, in turn, recalled the considerable role to be played by technical assistance in his scheme for an Agency for World Economic Development.

These, however, are statements relating to the general necessity for technical assistance. As regards assistance for the building up of an adequate establishment, or adjective administration, as early as 1951 there were proposals in consonance with the Secretary-General's of 1956. In a report entitled Standards and Techniques of Public Administration, the Special Committee on Public Administration Problems, after stating that:

In practically every attempt to solve technical and economic problems, there are a number of fundamental requirements of an administrative nature, requirements of organisation, staff, budget, planning and procedure.

went on to assert that:

When working on a project such as the actual installation of a series of reforms in revenue administration, the UN expert works in a capacity which, although essentially advisory, is not unlike that of a civil servant of the host State, a duality which, especially in technical assistance projects dealing with government and public administration, is delicate in theory but quite workable in practice.¹²

And a little farther:

In the case of... administrative projects it may be necessary for (the visiting experts) to take on the character, for the time being, of a civil servant of the nation to which they are assigned, while remaining on the

9. Cf. V. K. R. V. Rao, "An International Development Authority", India Quarterly, July-Sept. 1952, pp. 237-269.

10. Vide quoted speech, p. 7.

11. Op. cit., p. 4.

12. Ibid., p. 36 (Italics added).

international panel of experts.¹³

In view of the scarcity of experts, the committee suggested that UNTAA consider the desirability of building up,

... however gradually, a small and carefully selected panel of specialists in public administration. The panel would consist in the first instance of a nucleus of international experts retained on a full-time basis and subject to assignments in the field at any time, supplemented by a reserve of expert personnel from various governmental or non-governmental services, available from assignment from time to time.¹⁴

The Bolivian venture was mainly based on this idea--indeed, the Special Committee and the Bolivian Mission had in common several members who were enthusiastic proponents of the "executive and operational" approach to technical assistance, subsequently supported in other quarters.¹⁵ Early in 1953, Prof. Georges Langrod already emphasized the desirability of the establishment of nuclei of international experts, composed of both professional officials and specialists recruited *casu ad casum* for temporary assignments.¹⁶ Since July 1, 1956, a step in this direction has been made by the adoption of program appointments for a small number of highly qualified and versatile UNTAA experts, for whom the United Nations and specialized agencies engaged in technical assistance activities have a continuing demand. These appointments, still available only to a small quota of the total number of experts employed by the participating organizations, normally expire when the holder reaches the age of sixty; for all practical effects, the status of an expert so designated is comparable to that of an ordinary United Nations functionary. It is clear that an expansion of this central core of permanent officials would permit the achievement of greater continuity in the administration of technical assistance projects; it may even, to some extent, contribute to the success of Mr. Hammarskjöld's idea of an international administrative service.

Another recent original proposal which, surprisingly enough, attracted little attention in interested circles, is that contained in a report prepared for the US Senate by the Center for International Studies of the Massachusetts Institute of Technology.¹⁷ This scheme calls for the establishment of an "Internation-

13. *Ibid.*, p. 37 (*Idem*).

14. *Ibid.*, p. 38.

15. *Vide*, e.g., S. P. Hayes, Jr., "An Appraisal of Point Four", *Proceedings of the Academy of Political Science*, May 1953, pp. 304-305. Mr. Hayes proposed the creation, within the United States foreign aid program, of a "Foreign Technical Service Corps", a career service specifically trained for the rendering of technical assistance abroad.

16. G. Langrod, "L'Expert dans l'Assistance Technique", in *Revue Hellenique de Droit International* (Athens-Paris), 1953, pp. 45-47. The author is much indebted to Prof. Albert Lepawsky of the University of California (Los Angeles) for illuminating comments on this point and on other aspects of the question.

17. "The objectives of United States Economic Assistance Programs", a

al Development Advisory Council" (IDAC), designed to provide bilateral aid within a multilateral framework, according to a pattern somewhat reminiscent of the Colombo Plan. While the Senate staff study outlines in broad brush-strokes the consultative structure of the proposed organization for the exchange of bilateral economic aid (again, resembling M. Pineau's plan), reference is made to "an international staff of technicians with prestige and capacity to serve as a technical clearing-house and to give advice of various sorts".¹⁸ No attempt is made to exceed the advisory functions of the expert personnel to be so provided; however, the report also contains the following significant passage:

...[The consultative organization] might also, on request from under-developed countries, recommend economists or other technicians to serve as resident advisers to be paid by and directly responsible to the officials of the under-developed country. The effectiveness of such advisers, when they have demonstrated that they owe no obligation of loyalty except to the countries employing them and to their professional consciences, has been demonstrated in several countries.

Indeed, evidence seems to lead to the above conclusion. The drafter of that passage of the report, Prof. Everett Hagen of MIT, relied on his own substantial experience as economic adviser to the government of Burma, and on that of his colleagues, including Prof. Higgins, who reached similar conclusions as applied to Indonesia.¹⁹ The underlying assumptions that found their expression in the IDAC plan are of a psychological nature, to wit: the problem of maximizing the acceptability of the organization to the governments of less developed countries, so as to warrant the establishment of objective criteria for the evaluation of development programmes. While the IDAC scheme features some characteristics closely paralleling those of the one currently sponsored by the United Nations, no action has yet been taken on it.

III. The "International Administrative Service"

Several criteria may be adopted for a rather detailed critical analysis of the Secretary-General's plan. Since Mr. Hammaraskjold's recommendations contain over thirty specific elements worthy of careful scrutiny, and in order to avoid undue technical complexities, the method adopted here is that of examining the relevant issues as they presumably present themselves to the viewpoint of the host countries; the administrators concerned; and the United Nations. It should be understood, however, that this is but a conventional methodological device.

Study for the Special Committee to Study the Foreign Aid Program, US Senate, 85th Congress, 1st session, Staff Study No. 1, Washington, C. C., 1957, pp. 52-54.

18. Ibid., p. 53.

19. Cf. Higgins, Indonesia's Economic Stabilization and Development, op. cit., p. 47. Also information obtained orally from Prof. Hagen.

A. Standpoint of the Host Countries

1. Political implications -- The whole concept of international technical assistance is pervaded with political implications. Inasmuch as the countries most needy of such assistance are primarily those new states so recently emerged from what they rather indiscriminately term "colonialist oppression", and, as a result, suffer from an exacerbation of political sensitivities at the national level, this does not by any means facilitate the task of international organizations aiming at universal social welfare. Yet, for the same reason, only the United Nations, with its stated neutral position, can alleviate the growth pains of these new communities crowding the international scene; nevertheless, regional endeavours to that effect ought not to be neglected.

Depending on the particular circumstances surrounding their previous colonial status, underdeveloped countries have, to varying degrees, been able to evolve more or less elaborate administrative structures; but in the overwhelming majority of cases, they have not had the time nor the resources for the erection, since independence, even of a rudimentary administrative apparatus, a prerequisite for which is, of necessity, a subjacent tradition of public service,²⁰ and indeed, the existence of a social stratum from which to recruit elements for the civil service; for all administration ultimately consists of human beings and their interaction. It is recognized, however, that in order to bridge the ever-widening gap between materially advanced and backward countries, the latter must undergo a radical and accelerated process of economic development. This has already happened in the past, and the outstanding examples of Russia, Japan, and, to a lesser extent, Turkey, testify to its viability. The whole philosophy of technical assistance is predicted upon indigenous government responsibility for economic and social programs.²¹

Since, as stated earlier, any development scheme must be channelled through public administration, international technical assistance should be directed, first and foremost, to the improvement of administrative services. This, however, is a lengthy and gradual process (estimated by the Secretary-General as lasting a generation),²² whereas the glaring shortcomings of underdeveloped countries require prompt and effective remedies. It is even argued

20. For a grim description of such conditions, cf. C. L. Hunt, "Cultural Barriers to Point Four", The Antioch Review, June 1954: "The picture is usually one of a government in which graft is endemic at the bottom and a major malady at the top", etc. For an example in the same vein, cf. B. F. Hoselitz, "Problems of Adapting and Communicating Modern Techniques to Less-Developed Areas", this journal, Jan. 1954, p. 265.

21. Cf. Report of the UN Technical Assistance Board (TAB), "The Expanded Programme of Technical Assistance--A Forward Look", 11 May 1956 (Doc. E/2885 - E/TAC/49), p. 45.

22. Cf. Press Release SG/668, p. 9.

that in such cases a special brand of administrative framework, specifically aimed at the realization of development plans, must be employed; while the ground lines for administrative activity remain constant, the set of problems they present is of a particular nature.²³

Mr. Hammarskjöld's imaginative blueprint seeks to supplement the dearth of native officials that can be entrusted with such programs by grafting into these incipient administrations experienced foreign functionaries, recruited on a basis of wide geographic distribution through the United Nations, but responsible solely to the governments concerned. The Secretary-General supported this recommendation with claims that such aid was eagerly sought by these governments and was certain to evoke a warm response. Yet the idea attracted relatively little notice in the General Assembly; the ephemeral Bolivian experiment surely could not be regarded as an unmitigated success in every respect. In fact, not a few governments of less developed countries might be reticent in overcoming internal legal difficulties that would present the employment of alien personnel. Comments by governments having been requested by the Economic and Social Resolution 661 (XXIV) of July 30, 1957,²⁴ 57 replies were received of which 47 expressed general agreement with the principle

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23. Cf., *inter alia*, B. Silva, Assistência Técnica em Administração Pública (Cad. de Adm. Públ. No. 21, Rio de Janeiro: E. B. A. P., Fundação Getúlio Vargas, 1954), pp. 27-28 (apud H. W. Singer); R. de O. Campos, Planejamento do Desenvolvimento Econômico de Países Subdesenvolvidos (Cad. de Adm. Públ. No. 2), *idem*, pp. 38-39; H. W. Singer, "Obstacles to Economic Development", Social Research, April 1953, pp. 21-27; J. Peyraga, "Les Implications politiques des programmes de développement économique", Annales Juridiques, politiques, économiques et sociales (Alger) 2(1): 116-121, 132-140 (1956); D. Levy, "Les conditions politiques de mise en oeuvre des programmes de développement", *ibid.*, *loc. cit.*, p. 165.
24. Cf. Doc. E/3121, cf. 19 May, 1958. Since then, other replies were received: by July 4, 1958 (cf. E/TAC/L. 162, 8 July 1958, Statement by the Director-General of TAA to TAC, 26th session of ECOSOC, p. 21), 55 governments had agreed in principle; one approved but desired limitations which would make it impracticable; and 16 spontaneously stated their intention of seeking such assistance. It should be noted, however, that the draft resolution presented to TAC with a view to the establishment of an IAS (E/TAC/L. 160, of 3 July 1958) was sponsored by seven countries of which only one (Sweden) belongs to the materially advanced group. Still, the response of the UN (with 81 members at the time) was not overwhelmingly favorable; moreover, as a result of discussions held with the specialized agencies, it was established that no action would be taken by the UN without previous consultation and agreement, whenever requests fell within their sphere of competence (cf. E/TAC/L. 162/Corr. 1, of 9 July 1958). Since it is anticipated that, aside from adjective administration, IAS members would engage "in operational duties in posts of an industrial, transport, welfare, financial or even mechanical character" (*ibid.*), it is foreseeable that jurisdictional conflicts may arise among some of the specialized agencies, and cause squabbles of the kind that so negatively affect the

involved, but only fifteen member states indicated a positive interest in receiving assistance of the type envisaged, and some specific requests for personnel were formulated. The executive heads of five specialized agencies also gave their general support to the scheme in principle, but others qualified their approval in varying degree.

The other examples mentioned earlier reveal the reluctance on the part of governments to accept aliens within their administrative structures, however beneficial this might prove to be. This is especially true of countries having attained some intermediate level of development. Nor should this reluctance cause undue surprise; indeed, the formulation of development plans and their translation into terms of concrete affects are administrative processes so thoroughly permeated with politics, and of such paramount strategic importance for the future progress of any states, that some hesitation would be more than justified in empowering foreigners, whether or not "neutralized" by United Nations sponsorship, with the making of decisions on fundamental issues. During recent debates in the United Nations, the proposed International Administrative Service was even denounced as a potential channel of "neo-imperialism"--clearly, a complete distortion of the truth, but a confirmation of exacerbated political sensitivities; indeed, the whole idea of entrusting agents of an international organization with executive powers within a member state frontally collides with the basic postulate of technical assistance, viz., non-intervention in the internal affairs of the country. Such intervention is not eliminated by the fact that the state itself requested it, perhaps after some suitable prodding. On the other hand, while it is unlikely that governments will permit aliens officially to rule their governmental apparatus, this does not necessarily apply to substantive and less vulnerable fields of state activity, such as food and agriculture, health, education, and the like, where such external cooperation might be welcomed.

Nor, again, is the reluctance referred to mere speculation; for instance, now that the Soviet bloc has been actively participating in multilateral technical assistance programs, and given the requirement for wide geographic distribution in the recruitment of administrators, one may wonder to what extent a civil servant of a totalitarian state will cease his allegiance to

socio-economic work of the UN system (now enlarged with the inclusion in EPTA of the International Atomic Energy Agency--IAEA).

In its draft report (E/TAC/L. 165, of 11 July 1958 and Rev. 1, of 14 July), TAC 1 transmitted to ECOSOC the text of the draft resolution (voted in TAC 19 for XO against, with 4 abstentions). In Doc. E/3134/Add. 1, the financial implications of an experimental international administrative service of 20-30 operational and executive agents for 1959 (about the possibility of whose recruitment several delegations felt misgivings) were estimated at about \$250,000. (Cf. also E/3159, of 15 July 1958, pp. 3-4, Report of TAC.) In ECOSOC Resol. 681 (XXVI), of 16 July 1958, it was provided, however, that IAS should be established "without an increase in administrative costs"; one may well wonder how this is to be achieved.

that state only because he has been employed, with the benediction of an international organization, by the government of an underdeveloped country; it is even questionable how far the organization can realistically go in demanding rigid impartiality from a functionary statutorily bound to permanent loyalty towards his government and regime. One may retort by saying that no government is obliged to receive foreign experts it finds undesirable. This is of course quite true, but, either due to a magnified sense of admiration for significant technological achievements of, say, Russia, or by virtue of internal political manipulations, a state may find itself burdened with an encroachment of technically helpful but politically distasteful personnel, in practice endowed with wide authority--absent in the case of consultants. If freedom, this most cherished chimera of rising nationalities, is indeed the "God-given right to make mistakes", the general interest commands that this right be not abused by underdeveloped and over-nationalistic new countries. A concrete demonstration of this is supplied by the fact that the guiding criteria for the provision of technical assistance in the form of executive administrators are, as they should be, the basic needs of governments. No mention is made, however, of the body or person upon whom is incumbent the evaluation of these needs. In view of the fact that some governments have in the past requested--and, on account of political factors, obtained--assistance for projects quite unrelated to their crucial economic needs (in particular, such obnoxious tastes have been catered for by the countries belonging to the Soviet bloc, e.g., the construction of a sports stadium in Rangoon), one may well ask whether the United Nations contemplates an evaluation of country requests by the strictly rational methods that have brought some unfavorable criticism on the World Bank, or whether the present procedures of UNTAA are to be continued; in either case, there would still arise the need for advisory and surveying technical missions.

2. The ecology of government--Assuming that the optimistic predictions enunciated by the Secretary-General as to the availability of manpower would come true, still the foreign administrators would fall short of the immense needs involved in a world economic recovery and progress plan. The whole concept of technical assistance is, in theory at least, self-extinguishing. If one accepts as a convenient generic definition of Administration that given by Marshall Dimock²⁵--"Administration is a process that begins with planning and ends with human satisfaction"--one cannot but harbor some misgivings with regard to the capacity of foreign administrative generalists, conditioned by their own "ecology of government",²⁶ to grasp the relevant under-currents shaping the societies in turmoil that people most underdeveloped countries. As a consequence, it is questionable whether the right kind of rational planning by foreigners can bring about the satisfaction desired. Professor Appleby, among others, accentuates how crucial it is for superior public administration to "understand the country".²⁷

25. Cf. New Developments in Public Administration, Ankara, 1954, p. 8.

26. The expression was coined by Prof. J. M. Gaus. Vide his Reflections on Public Administration, Birmingham, Ala., 1947, p. 128.

27. P. H. Appleby, Policy and Administration, Birmingham, Ala., 1949, pp. 49-50.

Bureaucracies as institutions reflect the background of their own cultures, and they are indeed the exciteable parts in the anatomy of underdevelopment; adaptation to an administrative environment is a highly time-consuming procedure,²⁸ demanding not only an alert and observant mind, but also a socio-anthropological, sympathetic comprehension of local circumstances. The author does not, however, mean to imply that a relative failure to do so would constitute an unassailable cultural barrier, since in this area individual personalities can be brought to bear advantageously. Pending the assimilation of the determining factors in the ecology, precious time may be lost while the gap steadily widens; this time-lag may be somewhat reduced in the case of mere consultants, whose advice, prior to execution, is screened by the assumed political wisdom of indigenous leaders. It is possible that the responsibility for the effective exercise of an appreciable measure of discretionary authority by an imported administrator would weigh so heavily on his every move that he would tend to become over-cautious in an effort to dodge the pitfalls of his unfamiliarity with local conditions; again, it is recognized that this might be exaggerated insofar as substantive fields of administration are concerned, and where technical factors are relatively similar regardless of the ecological environment. Besides, the conservatism inherent to a career administrative corps, or class, such as would be established at the United Nations through an assignment system comparable to that of foreign services, is hardly compatible with the energetic initiative often required by the programming of economic development.

B. Standpoint of the Administrators

1. As to their governments -- The initial difficulty facing the potential candidates for the international administrative service concerns their relationship with their own governments. The Secretary-General's plan makes no reference to personnel other than public functionaries, either active or retired -- except international civil servants, members of the United Nations Secretariat and of the regular permanent staff of the specialized agencies; stress is laid, in his proposals, upon the fact that the selected officials ought to be high-ranking, experienced, and versatile enough to assure a competent handling of a variety of administrative situations. If "wide geographic distribution", that bugaboo of international administration, is to be observed, the establishment of the service would perforce entail further depletion of the scarce leading administrative talents in countries presently at an intermediate stage of development. On the other hand, the contact of experienced administrators with the bureaucratic structures abroad would perhaps contribute to a useful cross-fertilization of administrative processes.

While Mr. Hammarskjöld also refers to a possible recruitment of

28. This accounts for an unusual turnover rate for field, technical assistance personnel. Cf. Louis J. Kroeger and associates, "Personnel for the Mutual Security Program", Staff Study No. 2, prepared for the US Senate, Special Committee to Study the Foreign Aid Program, 85th Congr., 1st Session, Washington, 1957, esp. pp. 47-48.

administrators at a somewhat lower level of seniority, the bulk of the personnel would originate from the top echelons of the administrative hierarchy. Consequently, they are likely to be of a mature age, and, while this presents a number of advantages, it may also, and especially in the case of retired officials (a significant share would possibly come from former colonial administrators), bring a certain sclerotic rigidity into a system specifically meant to serve new setups, administrations devised for the execution of development plans. This point is certainly debatable; and though many of the recipient countries themselves would attach more value and prestige to experienced if elderly functionaries, the difficulties caused by their adaptation problems to new environments are of such magnitude that they might offset the advantages accruing from wide and prolonged experience. Moreover, one might wonder how the specified requirement of high-ranking officials can be conciliated, in the Secretary-General's plan, with the provision for the gradual building up of "a small expert corps of career administrators"²⁹ to be constituted by prolonged terms of assignment interspersed with tours of duty at headquarters. Clearly, within a human life-span, both conditions can scarcely be fulfilled simultaneously; rather, it would seem desirable that preference should be given to the establishment of a career corps of administrative consultants. Mr. Hammarskjöld's idea of a career force is to be welcomed, but perhaps along somewhat different lines. This may be adequately accomplished under present conditions, by posting promising young experts in public administration, possibly trained under international auspices, to various types of technical assistance missions, in different ecological surroundings, and performing diverse tasks.

Mr. Hammarskjöld seeks to obviate some of the obstacles listed above by suggesting the creation, within national administrative structures, of temporary posts *hors cadre* for international administrators. However, since these posts would have to be occupied by high-ranking officials (and, what is more, "versatile generalists"), such a measure would probably meet with an appreciable degree of resistance on the side of governments; indeed, in view of past experiences, there are little grounds for supposing that states would voluntarily alter the pattern of their governmental operations for the benefit of an international service that would only bestow visible benefits on other states. On the contrary, the utmost tact and skill would have to be exercised by the United Nations in order to remove some of the legal and technical difficulties that, even now, by indirectly penalizing national officials assigned to international secretariats and temporary missions, restrict the supply of experts available for technical assistance duties under international auspices.

2. As to employing governments--

a. Functional questions--A key innovating feature of the United Nations plan is that foreign administrators are to be employed, not as advisers, but as ordinary members of the civil services of the governments by which they are requested. As mentioned earlier, there are precedents for this sort of arrangement; but an objective evaluation of all cases so far recorded would be at best inconclusive as to the positive results achieved. Besides, in every instance,

29. Cf. Doc. E/3017, op. cit., p. 6.

there were qualifying circumstances that prevent the drawing of generalizations. In this writer's opinion, the arrangement is of doubtful usefulness. For one thing, due to the special conditions governing their service, it is but a fiction to pretend that foreign administrators can effectively be integrated into the public service of another country. Their relationship with the host government would be of a privileged contractual nature, and therefore very unstable, whereas the general relationship of civil servants vis-a-vis the state is statutory in character; the remuneration and the general terms of service of the foreign administration are likely to be substantially better than those of ordinary officials, and, although this is unavoidable, it may nevertheless cause resentment on the part of the latter--under such conditions, the measure of cooperation that can be expected from collateral and subordinate officialdom within the administration concerned is precarious.³⁰ This did not matter so much under the Capitulations regime, but it would weigh heavily in a voluntary undertaking. Furthermore, by working within such a framework the foreign expert automatically becomes subject to its procedures and disciplinary action, that may well result in the jeopardy of his reformatory zeal. His position for criticizing authorities would be a particularly delicate and risky one. One ought to bear in mind that governmental authorities in many underdeveloped countries are seldom able to recognize their administrative deficiencies, and even when they do, are loath to admit them in the presence of foreigners.³¹ Yet the liberty tactfully to criticize, and thereby to correct, mismanagement, ought to be a fundamental attribute of technical assistance personnel in operations.

The ensuing natural process of adaptation to environmental factors--which, in the case of not a few of the less developed countries, is equivalent to administrative inertia--may, in its turn, seriously hamper original attempts to improve the administration by endogenous action. It is hardly worthwhile to run into the trouble and expense of importing members of an international administrative service so that they would be reduced to the role of either frustrated zealots or efficient bureaucrats. In the words of Prof. Langrod, "an expert cannot behave as a simple functionary; if he does nothing but his duty, he is not doing his duty".³²

According to Mr. Hammarskjöld's proposals, as approved in their final form by General Assembly Resolution 1256 (XIII), of November 14, 1958 (para. 2, item a), international administrators are to perform in their countries of assignment a multiplicity of tasks, worthy of a factotum; in addition to their routine functions as heads of segments of the executive branch, they are to

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- 30. For a balanced discussion of the importance of human relationships between foreign and indigenous personnel, vide A. Buitron, "Working Relations with National and Local Officials in Technical Assistance Programs", this journal, Jan. 1954, pp. 279-285, esp. p. 283.
 - 31. Cf. H. L. Keenleyside, "Administrative Problems of the Technical Assistance Administration", *Canadian Journal of Economics and Political Science*, Aug. 1952, p. 345.
 - 32. "L'expert dans l'Assistance Technique", *op. cit.*, *loc. cit.*, p. 35.

engage in training of local officials, both through the establishment of appropriate institutions (which will require their advice on such matters as curricula) and by means of "in-service" training; besides, administrators are to negotiate arrangements for the training of suitable candidates abroad. It is difficult to see how all these responsibilities, undoubtedly interrelated and of the highest relevance *per se*, are to be discharged by the harassed administrator within his normally overloaded time schedule, in a manner other than perfunctory. Training of native candidates for the assumption of positions of responsibility within the public service at the earliest possible time is, in fact, a matter of capital concern in the field of technical assistance, especially in view of the "multiplier effect" of training. It should not, therefore, be left to the marginal care of administrators alone--although they may, in the course of their regular duties, stimulate the dissemination of knowledge of public administration.

b. Legal questions--There is little to be said with regard to the largely hypothetical question of allegiance. The present technical assistance system of the United Nations requires, under Article 100 of the Charter, that the experts sent on mission should pledge themselves not to accept instructions from any authority extraneous to the organization. Obviously, this exigence would be lifted for the members of the international administrative service who, though recruited by the United Nations, nevertheless would, while on mission, owe complete loyalty to the government they are to assist; however, it would seem reasonable that, during their assignments to headquarters duty, the administrators should still be bound by oath of allegiance to the organization. The rules governing these relationships arouse no controversy and are set out summarily in the Appendix to Doc. E/3017; it is understood, of course, that the creation of an international administrative service would depend on the necessary modifications in the provisions so far issued for the regulation of United Nations personnel, including technical assistance experts. A major difference would be that, while in fact such experts operate in host countries under the instructions of the respective governments, so long as their international status remains unaffected,³³ under the new arrangements this independence of status would presumably have to be forsaken, except as specifically otherwise provided in the agreements drawn up after a standard model, between the states concerned and the United Nations. The contracts between the governments of host countries and the administrators would then be drawn up in conformity with the basic agreements.

3. As to the United Nations--While present technical assistance experts (with the exception, in practice if not in theory, of those contemplated with program appointments) do not rank as international functionaries stricto sensu, they do, however, fall within the category of agents of the organization, which acts through their intermediary.³⁴ On the other hand, insofar as administrators

33. Cf. G. Feuer, Les Aspects Juridiques de l'Assistance Technique Paris, 1957, p. 180.

34. Ibid., pp. 156-163. Cf. also International Court of Justice, "Reparation for Injuries", Reports 1949, pp. 177, 182-5 (*apud* E. Hambro (ed.), The Case Law of the International Court, Leyden, 1952, pp. 211, 213, 215, 233, 235, 291, 293, 295).

would be responsible only to the governments of the host countries where they are to be designated³⁵ (after a short indoctrination and briefing period at UN headquarters), there remains to be seen whether they, too, could be classified as international agents; in this case, they would of course be entitled to the functional protection conferred by the United Nations to its agents. The administrators themselves would probably welcome such protection, their only official guarantee against eventual mistreatment.

Admitting that it would be premature at this stage to formulate conjectures in this regard, one can but hope that the matter will be thoroughly clarified in the terms of agreement. It appears nevertheless permissible to suppose that in order to safeguard the genuinely national character of the program and not to give rise to charges of interference with the internal affairs of a state, the organization would confine itself to the stipulation of certain elementary conditions, excluding functional protection, in the agreements and contracts. The latter would probably supplement the institutional arrangements made. The degree of power to be held by the administrators while in the service of host countries would surely remain at the discretion of the governments concerned. The provision to the effect that contracts or appointments made or issued, on the one side, by employing organizations within the recipient state and below national government level, and on the other side, by the administrator, should be subject to the agreement between the United Nations and the central government, is presumably designed to obviate dangers of evasion of international responsibility by the host state; conceivably examples could be the allegation of contractual arrangements regulated by the regime of private law, or questions involving the federal clause.

C. Standpoint of the United Nations

If Mr. Hammarskjöld's plan for an international administrative service is to be carried out at all, it is logical that it should be through the instrumentality of the United Nations, where, in the early stages at least, no new agency would be required for the purpose.³⁶ Some expansion in existing staff of the

35. Cf. Doc. E/3017, *op. cit.*, Appendix, p. 1, and subsequent documents, as finally embodied in General Assembly Resolution; cf. A/RES/1256 (XIII), of 14 November 1958, para. 2, item a: (IAS created with a view to) "assisting Governments participating in these programmes, at their request, to secure on a temporary basis the services of well-qualified persons to perform duties of an executive or operational character, as may be defined by the requesting Governments, and as servants of such Governments", etc. *Italics are the author's.*

36. Cf. Doc. E/3121, *op. cit.*, p. 6, item B. This is also the sense of Resolution 1256 (XIII)--para. 6, in which the General Assembly "Decided that this assistance shall be provided on a modest scale and on an experimental basis, using the existing machinery of the United Nations Secretariat and without any increase in administrative costs" (*italics added*). Cf. also Doc. A/C.2/200, p. 5, item B.

Technical Assistance Administration would suffice. While it is nowhere explicitly stated that the program would fall within the framework of EPTA, the Secretary-General's Memorandum of 16th October 1958 (Doc. A/C.2/200, p. 6, item F) mentions that reports on it would be submitted to ECOSOC and the Assembly under the regular agenda item on Public Administration. In the absence of any reference to the participation of TAB in the implementation of the program, the latter would presumably come under the authority of UNTAA, working directly under the Administrative Committee on Co-ordination (ACC), of which the Secretary-General is *ex officio* chairman; ACC is to serve as an organ of consultation between the United Nations and the interested specialized agencies, although it is apparent that the largest share of the plan would be incumbent upon the UN Secretariat itself. Basic authority for the execution of the program derives from article 66 of the UN Charter.

1. Personnel questions--It is not inconceivable that the major Powers --which, being also the most economically advanced, would necessarily serve as principal purveyors of manpower for the international administrative service--would, on account of their mutual political distrust, refrain from giving their indispensable active support to the plan; on the other hand, it would be self-contradictory to try and recruit administrators mainly from countries having achieved a stage of semi-development, because, although their techniques would probably be more adaptable to circumstances prevailing in the most backward areas, their own development programs would thereby be seriously impaired. The Secretary-General seems to take for granted an elastic supply of skilled manpower, which is, in fact, lacking; for example, in his London address of April 1958,³⁷ he displayed confidence in that many qualified candidates for the international administrative service would be forthcoming; this seems not quite to be the case. Indeed, Mr. Hammarskjöld himself stated, at a press interview held after his Montreal address of May 1956, that recruitment for the new cadres would be more difficult than it is for an international secretariat, working jointly within a sheltered compact unit, while under the plan they would be "split up in many units spread all over the world",³⁸ with all the personal and social problems this entails.

2. Headquarters organization--Recruitment of members for the international administrative service through the existing machinery of the United Nations presents no special difficulties other than the universal scarcity of available personnel. The formation of a career service of administrative generalists, through a rotation of assignments to field duty, seconding, national administration, and to sedentary work at headquarters, represents the response of the United Nations to a long-felt need, and the outcome of a trend of which program appointments were already a welcome symptom. Over time, the career service could be extended to other branches of expertise much in current demand, while isolated requests for highly specialized personnel could without any harm continue to be fulfilled by *ad hoc* recruitment, for shorter or longer

37. Cf. UN Press Release SG/668, *op. cit.*, *loc. cit.*

38. Cf. UN Review, 14 July 1956.

terms according to needs. Despite the intrinsic shortcomings of the plan as a whole, this particular aspect deserves praise for its soundness, previously emphasized in various proposals such as Mr. Pearson's³⁹ and others.

Another outstanding feature of the scheme advocated by the Secretary-General, and following by implication from the recommendation for a career executive and managerial service, is that of the establishment, at headquarters, of services designed to supply technical information, reports on relevant achievements and failures in other countries in the particular area of public administration, continuing analysis and evaluation of field operations, as well as administrative servicing on such matters as programs and policy, budgeting and expenditures, personnel and procurement. In other words, there would be established at headquarters, within UNTAA, a hybrid of a brain-trust, reference service, and clearing-house for information. This, too, is a modification of earlier proposals. In Mr. Hammarskjöld's own plan, it is stated that "the administrators should be able to draw freely on the resources of the United Nations",⁴⁰ and particularly on the substantive advice of the Department of Economic and Social Affairs and the TAA.

There can be no doubt as to the convenience of such a service of consultation and continued guidance from the Secretariat to the field. If the advisory expert often feels isolated, both in a human and a technical context, and needs orientation from his professional home base, *a fortiori* does the executive administrator, burdened with overwhelming responsibilities for decision-making. Writing on the pros and cons of short term expertise, Prof. Langrod already stated⁴¹ that, in the absence of an administrative mechanism permanently in touch with the modern trends in this domain, "any outside aid can only be ephemeral, and its repercussions run the risk of being shallow and short-lived." The presence of a clearing-house at headquarters would therefore provide a constant influx of fresh information which in itself constitutes a useful form of technical assistance. Conversely, not only would administrators in the field be able to rely upon a stable source of specialized background material, but also, due to the invigorating cross-cultural interaction between the world-wide experiences of field and Secretariat staffs, the science and art of public administration would itself be enriched. As a corollary, the actual quality of the services rendered to governments by international career administrators would also be likely to improve.

39. Cf. footnote No. 7; also Report of the TAC to the XIIIth Session of ECOSOC, Doc. E/2102, 29th August 1951, p. 4; Sharp, *op. cit.*, p. 95; Langrod, *op. cit.*, pp. 45-7; Standards and Techniques of Public Administration, report, *op. cit.*, pp. 38, 40, 41; Doc. A/C.2/200, p. 6, item E: "In order to provide the measure of security of tenure which would be required for satisfactory recruitment, the United Nations would assist officials who have proved their worth, when their service with one Government is completed, to find similar employment in other countries that may request their services".

40. Cf. Doc. E/3017, *op. cit.*, p. 7.

41. Cf. "Assistance Technique et Administration Publique", La Revue Administrative, Dec. 1952, p. 564.

It should be noted that the kind of clearing-house envisaged here differs markedly from that suggested by Professor Hagen in his part of the draft study for the US Senate.⁴² Diverging from his recommendation for a small clearing-house within IDAC, that should primarily provide a central meeting place for regional development programs, this writer contemplates an arrangement fairly resembling that in existence at the US International Cooperation Administration (ICA), where the organizational chart reveals a dual relationship, with both functional offices (e.g., of public services, of transport, of food and agriculture) under a division for technical services, and regional directorates (for the Far East, for the Near East and South Asia, for Africa and Europe, and for Latin America), coordinated under a Deputy-Director for Operations. It seems to this author that a perhaps less elaborate apparatus, considerably smaller in scope but discharging comparable functions, could well be accommodated within UNTAA for the servicing, at first, of the international administrative service, and perhaps in the future for all technical assistance missions abroad.

IV. Conclusion: Alternative Suggestions

The preceding section may have helped to throw some light on the issue of whether or not it would be expedient, at this stage of international relations, to remedy the less developed countries' poverty of managerial skills in public services by means of a direct transplantation of foreign administrators, recruited through the United Nations, within the structure of national administrations. In the present author's view, such a procedure would, in view chiefly of nationalistic feelings, be generally ineffectual, as regards strategic administrative positions, notwithstanding its numerous positive aspects. There is, however, a middle course between the extremes of outright transplantation of functionaries, on the one side, and that of the purely advisory experts, whose carefully formulated recommendations more often than not remain on the theoretical plane. While not purporting to act as a *deus ex machina*, the third and time-tested alternative may nevertheless supply a workable device incorporating the advantageous features of both other methods; reference is made to the system of joint cooperative operating agencies.

Practiced on a wide scale in Latin America since 1942 in the bilateral technical assistance programs of the government of the United States, which operates in the area through the Institute of Inter-American Affairs (IIA) the system, commonly known as *Servicios* (or *Serviços*, in Portuguese), may be described as consisting essentially of a special semi-autonomous operating unit within a ministry or other executive agency of a host state, set up by mutual agreement between the governments of that state and of the assisting one, and aiming through partnership at the implementation of special joint measures designed to foster the economic and social development of the host country.⁴³

42. MIT, Center for International Studies, The Objectives of United States Economic Assistance Programs, op. cit., p. 53.

43. Vide, P. M. Glick, The Administration of Technical Assistance--Growth in the Americas, Chicago, 1957, pp. 66-69, 73-80. K. R. Iverson, "The 'Servicio' in Theory and Practice", in Public Administra-

Resulting from a basic agreement of contractual value, the servicio is an authentically cooperative undertaking, in which the assisting government serves, so to speak, to "prime the pump" for the improvement of technical services (e.g., public health, agriculture, and education) ultimately to be integrated within the normal administrative structure of the assisted state; the latter contributes with the bulk of the financial wherewithal, while the former provides the know-how, in the form of technical personnel of demonstrated professional competence, who are entrusted with the training of their native "opposite numbers", so that these may take over the operation at the earliest possible opportunity. As a rule, the chief of the foreign technical mission also directs the servicio, but there have been shifts in this trend as well as exceptions, such as in the case of the Brazilian SESP (Servico Especial de Saude Pública), admittedly the most successful servicio of them all, which has always had at its head a Brazilian director; provision is generally made for a co-director of the other nationality, who also detains an effective mutual veto power. The head of the US technical mission is responsible to both the appropriate minister of state of the host government, and to his own superiors in the US government. The servicio is, by consent, endowed with powers to establish its own administrative procedures, including personnel policies, to operate its special bank account, and may in some cases be relieved from many fiscal laws and regulations applicable to the official services at large. While these characteristics provide a common denominator for analysis, it should be noted that there are no two identical servicis, all of which are established ad hoc. In view of their singularly detached situation, servicios are politically neutral on the national level and have for this reason enjoyed unsurpassed stability despite kaleidoscopic changes of regime and political leadership in the host countries.

It would be utopian to expect the servicio arrangement to be infallible in theory and in practice. But the disadvantages sometimes observable in its operations are not by any means inherent to the system. It is true that in isolated instances officials active in servicios have displayed a strong tendency to by-pass ministers of the host governments, and also that such projects have, when successful, been left too long to linger in their international status, when they could already have been transferred to the national administrations concerned. Like all other development programs, servicios require follow-up action on the transferred projects. An important negative factor is that where the host country is in no condition whatsoever to provide officials with a minimum of psychological and professional qualifications to ensure a simile of partnership, servicios are apt to be run in fact quite unilaterally by the foreign personnel.

The advantages accruing from this system are, however, also numerous: provision is made for training of local officials in the actual operation of projects; the structure is versatile--while there have not yet been created servicios for adjective public administration, it has been suggested that some might well be established for this purpose too. The functional mimetism of servicios extends beyond operations to the phase of economic planning proper,

tion Review, Autumn 1951, pp. 225-226; National Planning Association, Special Policy Committee on Technical Cooperation, Administration of Bilateral Technical Cooperation, Jan. 1956; pp. 7-8, 17-27.

through a slightly modified device, that of the "Joint Commissions for Economic Development". Geographic adaptability is another feature: servicios have reportedly been introduced in Egypt and Jordan; tried out with modifications in Iran, Israel, and Ethiopia; and are being examined with interest by other Asian countries such as India, Pakistan, and Indonesia.⁴⁴ Whereas all these experiments--the institution is still evolving--are being conducted on a bilateral basis, there is no reason to prevent its adoption by an interantional organization, the multilateral and neutral character of which may, quite on the contrary, render servicios much more palatable to governments which might otherwise resent intrusion of foreign administrators at the service of governments rendering assistance with political undertones. As a matter of fact, the United Nations itself has, in one report at least, commented favorably on the possibility.⁴⁵

With regard to the early proposals for an international administrative service, it seems that they could well have been reconciled with a somewhat modified servicio arrangement within the framework of the United Nations, perhaps, as has been suggested,⁴⁶ according to a general standardized structure including interdependent sectors for (1) training, (2) consultation, and (3) research and documentation. Indeed, the existence of a career international corps of experts and administrative generalists constitutes in itself a factor for the success of the institution; the same applies to the clearing-house services to be provided at headquarters. Finally, in accordance with the Secretary-General's idea, members of the international staff would really exercise temporary executive authority within national administrations, although not any more on the basis of individual positions that could easily become exposed targets for criticism and scapegoats for the host governments of the host countries, in case anything went wrong with their development programs--which would be bound to occur sometime. Instead, responsibility would be equitably shared by a collective body, "in-service" training of the very best variety would be continuously ensured as a matter of course, and generally the partnership device with its built-in informal cooperation, would probably respond better to the wishes of the governments concerned, of the personnel involved, and of the international organization. And, as an overriding consideration, it is conceivable that, even if only by a reduction of the potential sources of conflict, the interests of the world community at large in the economic and social progress of the less developed areas would be better, far better served. Nevertheless, the "Executive Operation Service" has been established, albeit on a very small and flimsy basis; now that it is here, the only possible solution for the United Nations community is to try and develop its many positive aspects, while hoping that narrow-minded if understandable nationalistic excesses will not hinder its further progress.

44. Apud Glick, op. cit., p. 89.

45. Technical Assistance for Economic Development, Plan for an Expanded Co-Operative Programme through the United Nations and the Specialized Agencies, New York, 1949, p. 37 (sales no. Publ. 1949. II, B. 1).

46. Private interview with Mr. J. C. Rodriguez-Arias.

THE INTERPRETATION AND USE OF JAPANESE FOREIGN TRADE STATISTICS*

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During the postwar period, a major advance has been made in the quality and scope of Japanese government statistics. Even prior to World War II, foreign trade statistics collected by the Bureau of Customs of the Japanese Ministry of Finance were excellent.¹ With the exception of the war period itself, they are also the best official foreign trade figures published by any country in the Far East.² This does not mean, however, that Japanese statistics are a means of automatic access to Japan in our own terms. For correct interpretations of statistics, the burden remains on us to ascertain the method of compilation, the degree of coverage, the system of valuation, and the nature of commodity classification. In each of these respects, Japanese foreign trade statistics have undergone substantial modification during the postwar period.

The Value of Foreign Trade

A convenience and also a source of confusion lies in the fact that the Japanese government publishes detailed breakdowns of the foreign trade statistics in United States dollar value as well as in yen value. This practice was inaugurated under the Occupation for accounting purposes because following the war the yen at first had no external value. Equivalent dollar values of Japanese exports and imports were therefore estimated by the Supreme Command for the Allied Powers (SCAP).³

* The writer is grateful to the Claremont Research and Publications Committee for a grant in support of the preparation of this paper.

1. The zeal with which foreign transactions were watched and recorded may have been partly due to a traditional suspicion of foreigners. The atmosphere of Customs procedure is conveyed in a handbook, Zeikan Kanri Nichijo Kaiwa (A Daily Conversation for the Officials of the Imperial Custom-House), Yokohama, 1937.
2. R. G. D. Allen and J. Edward Ely (eds.), International Trade Statistics, New York, 1953, p. 413.
3. The principal purpose of maintaining the practice at present seems to be that it provides a differentiated product for the Economic Planning Agency, which publishes the dollar figures, in contrast with the Ministry of Finance which publishes the statistics in terms of yen.

Prior to 1950 budgeting of foreign exchange for import purchases, operation of the foreign exchange control system, detailed supervision of foreign trade procedures at all levels, and participation in all actual foreign trade contractual agreements, was largely within the jurisdiction of SCAP, although in some details a gradual relaxation of its authority had begun as early as 1947. The Japanese described the system of dealing through SCAP as "blind trade".

In the case of export contracts written by the military headquarters, for administrative reasons the contractual foreign currency value of an individual shipment was not written on the customs declaration at the time of export. As eventually entered in the statistics, therefore, dollar values were often prices of "comparable" goods selected from catalogues and price lists and calculated with the aid of conversion tables of weight and measure. The difficulties of valuation were multiplied by the fact that shipments for various purposes took place, such as shipments of raw material for processing only; and various types of financing were used, including cash, "open account", and barter.⁴ During 1945 and 1946, for example, a substantial amount of Japanese textiles was exported on consignment to the United States Commercial Corporation. The estimated value of these shipments in the trade returns differed considerably from their eventual liquidated value.

On the import side, early postwar shipments consisted largely of American Aid goods, which were priced on the basis of advice received from Washington. The latter presumably referred to procurement cost, but this also was an approximation due to the separation of goods and procurement documents in the process of military warehousing. There were, moreover, various categories of American Aid imports, for which the methods of valuation were not comparable.⁵ Reconciliation of the value of American Aid goods received and the amount of Congressional appropriations or expenditures for this purpose ultimately became a formidable task.

Analysis of the value of American Aid supplies to the Japanese economy is also hindered by the fact that a Counterpart Fund was not organized until establishment of an official uniform rate of exchange in April 1949. Prior to

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4. "Open Account" transactions are those between Japan and countries other than those in the dollar or sterling areas. This trade is conducted on a bilateral balanced basis in order to eliminate the necessity of cash settlements.
 5. The principal "program" designations of American Aid imports were as follows: GARIOA, Government and Relief in Occupied Areas; EROA, Economic Rehabilitation in Occupied Areas; SOA, Shipping Designation for Operations Administration; SIM, Surplus Incentive Materials Program; SRE, Reorientation, Information and Education Program; and "Military Diversions", which were transfers to the Japanese civilian economy of occupation force military stocks located in Japan.

that time, proceeds received in domestic currency from the sale of American Aid goods were used to provide subsidies for suppliers of goods for export, and it was not until a concerted drive to "abolish" subsidies began that SCAP demanded a simultaneous accounting in the form of a Counterpart Fund.⁶ No record of the yen proceeds from domestic sale of American Aid goods prior to establishment of the Counterpart Fund was ever published in the Japanese government financial accounts, and the record of subsidy disbursements from this source was likewise never revealed. The extent of "internal subsidies" following 1950, and their relation to prices in foreign trade, would also be difficult to assess.

In terms of yen value, the export prices recorded on the customs declarations were prices paid to the supplier by the Japanese government foreign trade procurement agency, Boeki Cho. These, however, were legal prices and failed to include the value of subsidies and other benefits received by producers.⁷

The yen prices paid by Boeki Cho prior to April 1949 were fixed on a "fair price" or "floor price" basis. This gave rise to a system of implicit cross-rates ranging between 60 and 900 yen to the dollar in terms of the prices eventually entered by SCAP in the foreign trade statistics.

For reasons such as these, there is lack of consistency between the official yen and dollar statistics of Japanese foreign trade in the postwar period prior to 1950. Not until January 1949 were both quantity and value information in most cases statistically compiled from the same source document.⁸

Prior to 1950, if the implicit general rate of exchange is calculated by dividing the dollar series by the yen series, we find the following:

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6. The Headquarters reported, "The establishment of the single exchange rate of 360 yen to one U.S. dollar in April 1949 and the simultaneous abolition of all export subsidies has compelled Japanese firms to meet world competition on the basis of their own efficiency". This statement, however, is followed by, "Further reduction of internal government subsidies, particularly in the iron and steel industry where subsidies are being totally eliminated in FY 1950, should force firms to improve efficiency to meet world prices or go out of business". General Headquarters, Supreme Commander for the Allied Powers, Economic and Scientific Section, Mission and Accomplishments of the Occupation in the Economic and Scientific Fields, Tokyo, September 26, 1949, p. 14.
 7. One such benefit might be the sale in the domestic black market of either a portion of the raw material allocated under terms of the procurement contract, or a "spoiled" portion of the finished supply of goods.
 8. For an outline of the various documents from which the trade returns were compiled prior to that date, see Japanese Economic Statistics, January 1951, No. 53, Section II, p. 3.

Year	Yen in terms of dollars	
	Exports	Imports
1946	.046	.075
1947	.017	.026
1948	.005	.011
1949	.003	.003

The higher implicit import value of the yen during this period may be attributed to the absence of the subsidy component in the valuation of export goods at legal prices.

Besides the Ministry of Finance Annual Return of the Foreign Trade of Japan, "trade statistics" are also published by the Bank of Japan. But whereas the Annual Return is based on the amount of goods cleared by the customs houses, the Bank of Japan statistics are based on the amount of foreign exchange payments received by the foreign exchange banks. This gives rise to a difference in coverage, for shipments unaccompanied by foreign exchange drafts are included in the customs statistics but are not included in the foreign exchange statistics.⁹ The value of the included shipments also differs as between the foreign exchange statistics and the customs statistics because the former are on the basis of the face values of drafts (which may be FOB, CIF, or C F) whereas the customs statistics are uniformly on the basis of FOB prices for exports and CIF prices for imports. The timing of the two series differs because the foreign exchange statistics are based on the date of arrival of reports at the Bank of Japan from the foreign exchange banks, whereas the customs statistics are based on the "permitted" date (date of customs clearance). Where calendar year or Japanese fiscal year (April 1 to March 31) is unspecified, the reader must be prepared for either in the case of foreign exchange statistics, whereas the customs statistics are almost always on a calendar year basis. The contrast in the value of Japanese merchandise trade in terms of these alternative sources is as follows:

Calendar year	Millions of dollars			
	Exports		Imports	
	Ministry of Finance	Bank of Japan	Ministry of Finance	Bank of Japan
1950	597	881	974	597
1951	1,812	1,382	1,995	1,812
1952	1,808	1,085	2,028	1,808
1953	2,066	1,075	2,410	2,066
1954	1,769	1,499	2,399	1,769
1955	1,887	1,936	2,471	1,887
1956	2,597	2,187	3,230	2,597

Source: Japanese Economic Indicators, April 1958, p. 11.

9. The term "usage system" refers to foreign currency loans for imports into Japan extended either by foreign banks or by domestic foreign exchange banks in Japan.

Because of the respective types of documents from which their statistics are compiled, incidentally, Bank of Japan figures are subject to more revision than are those of the Ministry of Finance.

Statistical Timing and Commodity Coverage

Important changes with regard to the timing of the reporting period for Ministry of Finance statistics were introduced on two occasions during the postwar period. The prewar method of import compilation was on the basis of the date of customs permit for entry of shipments. Exports were reported by date of ship departure from port. In the case of imports, however, considerable delays often take place between arrival of shipments in port and their customs clearance. The Occupation authorities insisted, therefore, that the date of compilation refer to the date of arrival of vessels in port for both import and export shipments. Usefulness of the data for calculation of the income elasticity of demand for imports, for example, was thereby much improved.

This procedure was abandoned, however, in the statistics beginning July 1951, when the prewar method of compilation was reinstated. A tremendous volume of duplicate entries was thus entered into the import statistics for 1951. In order to provide a correction factor, the Ministry of Finance maintained a separate tabulation on the arrival basis for the last six months of 1951, which gave a total of \$222 million to be subtracted from the figures on the "permitted" basis.¹⁰ Curiously enough, this correction factor was never applied to the series in dollar value for six-month periods as reported by the Economic Planning Agency. If the reader hastily computes the 1951 total, which is the only missing annual figure for imports in this regularly published table by six month periods, he will have a result considerably too high.¹⁰

The coverage of postwar merchandise statistics excludes Special Procurement by the American military authorities, which, from the beginning of the Korean conflict in 1950 through 1957 has averaged \$586 million annually.¹¹

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10. Japanese Economic Statistics, December 1957, No. 136, Section II, p. 6. The correction factor is included, however, in the dollar value of imports reported in Japanese Economic Indicators, quoted above. Another typical case of poor presentation appears in the Economic Survey of Japan, 1954-1955, p. 191, where the currency base from which the index of unit value was constructed is not specified. If one should attempt to deflate the yen trade by this index and compare the results with a national income series deflated by the General Price Index, he would find that the real value of trade is greater than the real value of national income!
 11. This figure refers to Special Procurement in the "wider sense", including receipts in the US Security Forces Depository Account, official sales of yen to American military and civilian personnel at the legal rate of exchange, revenue from base construction work in Okinawa, expenditures in Japan of the United Nations Korean Reconstruction Agency, revenue

Classified as invisible earnings, this income has held steady at this level, and for several years it represented about 35 percent of Japan's total foreign exchange receipts. Although qualitatively different, in amount it is already more than double, therefore, the total amount of American Aid imports (which are included in the merchandise trade statistics) received by Japan in the whole postwar period.¹²

With regard to coverage, it may be noted that exports for reparations are also excluded from the statistics. By February 1958, agreement had been reached on all outstanding reparations claims against Japan, with the exception of the minor case of Vietnam. The reparations agreement with Burma was the first to be signed (in November 1954), and provides for total payments of \$25 million over a period of ten years.¹³ The agreement signed with the Philippines in May 1956 provides for total payments of \$550 million over a period of twenty years.¹⁴ The agreement with Indonesia, signed in January 1958, requires Japan to furnish goods and services valued at \$223 million over a period of twelve years.¹⁵ The total value of reparations exports may be in the neighborhood of \$100 million annually.

Base Period Comparisons

For postwar statistical evaluation and planning purposes, the Occupation at first considered the years 1930-34 to be representative of Japan's peacetime economy. (Restrictions on the output of consumer goods in Japan were introduced in 1937--thus 1936 was Japan's full last prewar peacetime year.) With

from offshore procurement by the Foreign Operations Agency in behalf of South and Southeast Asian countries (including supplies for Indo-China). In the "narrow sense" of the term, Special Procurement receipts refer only to proceeds received from the sale of goods and services. In this sense, invisible trade revenue amounted to an average of \$270 million for the five-year period 1950-54. Deflated by the General Price Index and translated into yen at the prevailing rate of exchange, the annual average value of Special Procurement in the narrow sense during 1950-1954 would represent approximately 11 percent of the 1934-36 annual average value of merchandise exports. Economic Survey of Japan, 1954-55, pp. 38-39.

12. American Aid imports were received by Japan during the period 1945-1952 and amounted to a total of \$2.1 billion in the official Japanese statistics. Special Procurement receipts by Japan amounted to \$4.7 billion during the period 1950-1957. Technically, the value of American Aid imports remains a debt owed by Japan to the United States.
13. The Oriental Economist, December 1954, p. 581.
14. Monthly Economic Review, July 1956, The Bank of Japan, p. 4.
15. International Financial News Survey, February 14, 1958, p. 254.

the advent of the policy of rehabilitation, however, the period 1934-36 was adopted as the norm, which has been retained by the Japanese government for presentation of official post-Occupation statistics.¹⁶

Aside from the administrative objectives implicit in the selection of a base year, it is of interest to consider some technical hazards in the casual use of indices which may be calculated from the foreign trade statistics. With regard to any prewar base, because of subsequent variations in the rate of exchange and in the domestic price level, a total value index calculated in terms of yen will give postwar results drastically different from an index calculated in terms of dollars. Similarly, suppose we take 1953 exports as 100. In this case the 1934-36 average of the total value index for data in current yen is 0.7. The corresponding value of the index for data in current dollars is 73.1.

On the other hand, results may be compared in terms of deflated data. For the series in yen value, a standard deflator is the General Price Index, published by the Economic Planning Agency.¹⁷ If the data are in terms of dollar value, the appropriate deflator is the Ministry of Finance Index, appearing in Japanese Economic Statistics. Having deflated the values by these indices respectively, we may then derive quantum indices from the deflated figures. But comparison of the quantum indices reveals a substantial difference in the dollar-deflated as compared with the yen-deflated series. (See table.) The difference, moreover, is consistent for both imports and exports. Thus prior to 1950 we note that deflated dollar data yield a consistently smaller quantum than deflated yen data, whereas following 1950 they consistently yield a larger quantum. The differences, moreover, increase in both directions as we move away from 1950. In 1956, the quantum of dollar deflated data was 10 percent more than the quantum of yen deflated data. Yet either result may be offered as "representative" for the purpose of economic analysis. Because exchange rates have varied considerably during the past several decades, changes in the volume of trade are often expressed in terms of quantity rather than in terms of money value. For this reason, variations in the results obtained through alternative legitimate derivations of the quantum of trade take on special significance.

Commodity Classification

In seeking comparability among Japanese foreign trade statistics over time, another complicating factor is the occurrence of relatively frequent major changes in the system of commodity classification. A foreign trade code of 17 major groups used during the 1930's was superseded by a 14-group code

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16. On a base of 1930-34 as 100, SCAP's original version of the Index of Industrial Production shows 1934 at 121, 1935 at 133, and 1936 at 143. Japanese Economic Statistics, November 1948, No. 27, p. 6.
 17. It should be noted, however, that the General Price Index was designed for general domestic prices and does not take special account of the prices of those goods entering into foreign trade.

Comparison of Alternatively Calculated Quantum Indices for
Japanese Foreign Trade

A. Exports from Japan

Calendar year	Exports (thousands of GPI-deflated yen)	Quantum index I	Exports (thousands of MF-deflated dollars)	Quantum index II	Ratio of Quantum indices KK/I
1950	393,686,990	85.8	995,212	78.1	91.0
1951	538,300,412	117.3	1,110,262	87.1	74.3
1952	483,889,331	105.4	1,177,535	92.4	87.7
1953	458,943,408	100.0	1,274,843	100.0	100.0
1954	565,053,017	123.1	1,698,891	133.3	108.3
1955	698,664,069	152.2	2,219,173	174.1	114.4
1956	845,285,456	184.2	2,643,409	207.4	112.6

B. Imports from Japan

Calendar year	Imports (thousands of GPI-deflated yen)	Quantum index I	Imports (thousands of MF-deflated dollars)	Quantum index II	Ratio of quantum indices II/I
1950	459,967,745	53.0	1,083,803	45.0	84.9
1951	811,939,755	93.6	1,610,201	66.8	71.4
1952	771,226,696	88.9	1,772,870	73.6	82.8
1953	867,469,443	100.0	2,409,637	100.0	100.0
1954	832,163,234	95.9	2,496,749	103.6	108.0
1955	858,798,234	99.0	2,623,475	108.9	110.0
1956	1,091,742,620	125.9	3,332,962	138.3	109.8

Source: Prewar data compiled and converted at average annual rates of exchange from Nippon Gaigoku Boeki Nenhyo (Annual Return of the Foreign Trade of Japan), Chosen Boeki Tokei Nenhyo (The Trade and Shipping of Korea), and Taiwan Boeki Tokei Nenhyo (Annual Return of the Trade of Formosa). Postwar dollar data from Japanese Economic Statistics. Alternative deflation by General Price Index (base shifted from 1934-36 100 to 1953 100) and by Ministry of Finance Indexes of Foreign Trade Unit Value (1953 100). Quantum indices calculated from data deflated as indicated.

in September 1943. Under the Occupation, a ten-group code, to facilitate mechanical tabulation, was introduced in September 1949. This gave way to a new ten-group code effective July 1, 1950. Finally, effective April 1, 1951,

the present code was adopted, based on the United Nations International Trade Classification, with variations to provide for specialties of Japanese trade. Changes in systems of commodity classification are often landmarks of economic change, analysis of whose nature they are designed to facilitate. They may do so, but they also remove a degree of comparability with prior periods, which increased rather than increases difficulties of analysis.

Geographical Coverage

Concerning the problem of comparability between statistics for prewar and postwar Japanese foreign trade, we may consider as a final topic the matter of former Japanese Empire trade. The official prewar statistics exclude Japan's trade with Korea and Formosa, which at that time were considered to lie within the province of domestic trade. With regard to the present area of Japan, a comparable prewar base must include Japan's trade with each of the former colonies as well as the figures for Japan's trade with "foreign countries" published in the Annual Return of the Foreign Trade of Japan. Japan's trade with Korea is found in The Trade and Shipping of Korea; trade with Formosa is in the Annual Return of the Trade of Formosa.¹⁸

It is not safe to assume that postwar publications of the Japanese government always include the desired adjustments. In the 1954 edition of Japan Statistical Yearbook, for example, the description which introduces the foreign trade statistics makes a careful distinction concerning a relatively trivial difference in the prewar and postwar coverage: "Japanese territories till May 16, 1946 are: Honshu, Shikoku, Kyushu, Hokkaido, South Sakhalin, the Kurile Islands, Ryukyu Islands, and Bonin Islands. But since May 17, 1946, South Sakhalin, Kurile Islands, Ryukyu, and Bonin Islands are excluded from these."¹⁹ Having drawn attention to this refinement, one might suppose that the government must also have classified prewar colonial trade as foreign trade. But this is not so; trade with Korea and Formosa is excluded from foreign trade figures prior to 1946.²⁰

Apparently the case for including former Japanese Empire areas to achieve comparable coverage in the prewar and postwar statistics has not yet, however, been settled to everyone's satisfaction. A special supplement was published by The London Economist on March 8, 1958, devoted to current

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18. Some slight discrepancies are introduced when the prewar figures are adjusted. In each of the sources mentioned, imports are reported on a CIF basis and exports on an FOB basis. In treating, for example, Korean exports to Japan as Japanese imports from Korea, there is some distortion in valuation as well as in timing.
 19. Japan Statistical Yearbook, 1954, Bureau of Statistics, Office of the Prime Minister, p. 255.
 20. The ambiguity is clarified in subsequent editions.

Japanese conditions, in which the discussion omitted former Empire areas from the base against which changes in Japanese foreign trade were calculated. The omission was criticized by Professor Norton Ginsburg,²¹ who pointed out that in 1936, 55 percent of total Japanese imports came from Asia including Korea, Formosa, and Karafuto (South Sakhalin), compared with only 39 percent as calculated by The Economist. Similarly, exports to Asia represented 64 percent of total exports, not 50 percent as described by The Economist. In rebuttal, The Economist declared that whereas Professor Ginsburg was correct on a "geographical" basis, he was not correct in terms of Japan's "dependence on 'outside' sources", where "outside" is defined in political terms. It is evident, however, that political as well as economic considerations govern postwar economic policy in Japan. The basis for comparison of prewar and postwar results is thus impure at best. It would seem, therefore, that economists should appeal to the most clear-cut criterion available, which in this case is the geographical one.

21. The Economist, London, April 26, 1958, p. 302.

SOME NOTES ON LAW AND CHANGE IN NORTH INDIA*

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I. The Little Kingdom

As the anthropologist has turned from the study of primitive, isolated, pre-literate societies to that of social units which are parts of great civilizations, a new range of problems calls for description and analysis. The following paper is a description of the dispute settlement process in a local region in north India and the effects that the establishment of British rule had on indigenous dispute settlement procedures.

The complexity of the situation in an Indian village as regards law and the process of settling disputes can be only briefly catalogued in this paper. To start, let me briefly summarize the social system of a particular region in India. Senapur is a large, multicastric village in Jaunpur District of Eastern Uttar Pradesh,¹ and my remarks, unless otherwise specified, relate to Senapur and the immediately surrounding locality, which is called Dobhi Taluka or Tuppah. Dobhi Taluka is an area of forty square miles with roughly one hundred

* The field work on which this paper was based was carried out in 1952-1953, when the author was a fellow of the Social Science Research Council and Fulbright scholar. The Social Science Research Council's Summer Seminar on Law and Social Relations, 1956, provided the stimulus for a preliminary analysis of the data on legal change.

I would like to express my thanks to Shri Rudra Datt Singh, Shri Shri Nath Singh, Professor Morris Opler, and Professor McKim Marriott for comments on the paper or assistance during the field work; and my appreciation of the suggestions made by the late Robert Redfield.

1. Morris E. Opler and Rudra Datt Singh, "The Division of Labor in an Indian Village", in Carleton S. Coon, ed., A Reader in General Anthropology, New York, 1948, pp. 464-496; also, "Two Villages of Eastern Uttar Pradesh (U. P.), India: An Analysis of Similarities and Differences", American Anthropologist, Vol. 54, pp. 179-190; also, "Economic, Political, and Social Change in a Village of North Central India", Human Organization, Vol. II, pp. 5-12. Bernard S. Cohn, "The Changing Status of a Depressed Caste", in McKim Marriott, ed., Village India, Chicago, 1955, pp. 53-77. Rudra Datt Singh, "The Unity of an Indian Village", Journal of Asian Studies Vol. 16, pp. 10-19. Morris E. Opler, "The Extensions of an Indian Village", Journal of Asian Studies, Vol. 16, pp. 5-10; also, "Factors of tradition and Change in a Local Election in Rural India", Leadership and Political Institutions in India, Paper No. 28, Berkeley, 1956, mimeo.

villages. All the villages were "owned" at one time by one lineage of Rajputs, locally termed "Thakurs". Thakurs are descendants of an agnatic ancestor who conquered the area in the seventeenth century. One of the underlying assumptions in this paper is that a local area of this kind, which I will style the "little kingdom", was the basic jural unit of upper India in the eighteenth and nineteenth centuries.

The political organization of upper India in the latter part of the eighteenth century has to be viewed at two levels. At the top level were the successor states of the Mughal Empire, most of them established by conquerors. Beneath this level were lineages which, as corporate groups, acted as the local rulers. A lineage, usually Rajput but occasionally Brahman, Bhumihar, Ahir, Jat, or Gujar, controlled anything from a few villages up to several hundred. The British recognized a lineage or the headman of a lineage as the landlord of a village or a group of villages and made the lineage or headman responsible for the regular payment of land revenue² and maintenance of law and order. In Mughal times, in addition to payment of land revenue, the lineage was also responsible for the provision of troops.³ These lineages governed the little kingdoms. In Mughal times, there was little interference in the little kingdom on the part of the ruling state as long as the ruling lineage did not try to abrogate its tax or military obligation and as long as internecine warfare among the Rajput lineages did not break out into major battles.⁴

One of the lineage functions in the little kingdom was the settlement of disputes. Disputes regarding caste matters, such as marriage, rules of commensality, and caste occupational regulations, were settled by the caste panchayats (councils) of the local region. As far as I could determine in the field of 1952-1953, the jurisdiction of the various caste panchayats fell entirely within the boundary of the little kingdom. Caste matters that could not be settled by the caste panchayat could be, and often were, referred to the dominant caste, the Thakurs (Rajput landlords), whose lineage controlled the little kingdom. This referral of caste disputes to the Thakurs was usual in questions of poverty right, inheritance, inter-caste disputes or disputes which threatened the peace of the village or the region.

The Thakurs' power to settle disputes arising in other castes resident in

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2. A. Shakespear, Selections from the Duncan Records, Benares, 1873, 2 vols.; James Thomason, "Report on the Settlement of the Ceded Portion of the District of Azimgurh, commonly called Chuklah Azimgurh", Journal of the Asiatic Society of Bengal, Vol. VIII, pp. 77-136; and B. H. Baden-Powell, Land Systems of British India, Oxford, 1892, Vol. II, pp. 11-29.
 3. John Beames, "On the Geography of India in the Reign of Akbar: Part I", in Journal of the Asiatic Society of Bengal, Vol. 53, pp. 215-231; "...Part II", loc. cit., Vol. 54, pp. 162-182. Henry M. Elliott, Memoirs on the History, Folk-lore, and Distribution of the Races of the North Western Provinces of India, London, 1859, pp. 201-206.
 4. Jadunath Sarkar, Mughal Administration, Calcutta, 1920, pp. 16-17.

the little kingdom was based on their position as landlords, the fact that all castes were tied to them through social, economic, ceremonial, and traditional ties, and the fact that the Thakurs were the Rajas (kings) for the inhabitants. The Thakurs defined themselves and were defined by those below as the "Lords". The Thakur attitude was summed up by one elderly Thakur, who said, "We took this land with the sword, these other people are our dependents".⁵

During the eighteenth and nineteenth centuries, in a little kingdom, the dominant caste controlled all castes beneath it. The outside government did not ordinarily interfere with this relationship. Disputes among members of the dominant caste within the little kingdom, at least in Eastern Uttar Pradesh, could ultimately be settled by a formally constituted council. Membership in this council was based on a regional division into twelve lineage segments, the basis of the judicial and governing body and landholding. The principal basis of dispute settlement in this council was probably arbitration⁶ and the balancing of power so well analyzed by students of African political organizations.⁷ The system of arbitration and power balance was reinforced by the expectation, in pre-British times, that internal strife in the dominant caste would be used by surrounding groups to destroy the suzerainty of the lineage over its little kingdom.

Thakurs also derived important status in their role as settlers of disputes and judges, from their claims to be kings in a traditional social order. In Hindu political and legal doctrine, part of the function of the king was the maintenance of the social order, which entailed prevention of what the law books term "the confusion of castes".⁸ Every caste had its prescribed duties to perform, as well as the obligation of marrying within the caste. The king wielded the danda (literally, a stick) to enforce the rules of the caste system. The Brahman was the advisor of the king and the interpreter of law, and he could prescribe punishment in form of a ritual expiation, but it was the king's duty to see that the punishment was carried out. Theoretically, the castes were self-governing in terms of setting and enforcing their own standards of behavior, but the king could always be resorted to by appeal from caste rulings. This aspect of the function of the king was preserved even into the twentieth century in those parts of the Indian sub-continent ruled by the Indian princes.⁹

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5. For a discussion of the relations of Thakurs to other castes, see Opler and Singh, "The Division of Labor...", *op. cit.*, pp. 64-96; Cohn, *op. cit.*, pp. 53-56; and Singh, *op. cit.*, pp. 14-15.
 6. Shakespear, *op. cit.*, p. 42.
 7. Max Gluckman, Custom and Conflict in Africa, Glencoe, Ill., 1955, pp. 1-26.
 8. P. V. Kane, History of Dharmasastra, Poona, 1946, Vol. III, pp. 3, 57, 238, 281; H. J. Maynard, "Influence of the Indian King upon the Growth of Caste", Journal of the Panjab Historical Society, Vol. 6, pp. 88-100.
 9. A. M. T. Jackson, "Note on the History of the Caste System, Journal of

The Thakurs in a particular village, backed ultimately by the local council of twelve, ruled and adjudicated for themselves, and for the dependent castes in matters which the dependent castes could not settle themselves. The separate sub-castes below the Thakurs lived, worked, and were the dependents (praja) of the Thakurs. These separate and independent sub-castes usually settled intra-caste disputes. I will describe a typical procedure of settlement of disputes in one sub-caste, the Chamars.

II. The Chamars

In 1952 there were over 600 Chamars, scattered in six hamlets, living in the village of Senapur. The basic social and economic unit of the Chamars is the household (ghar) which is usually a nuclear family; the households in turn are united into lineages (khandan), normally traced through the male line. We may view the Chamars' social organization somewhat as the cross section of an onion, the center ring being the household, the next the khandan, the next ring the hamlet, the next the six hamlets of Senapur, the next ring the network of villages into which Chamars marry and from which they take brides--a circle of four to ten miles, and finally the named sub-caste, Jaisvara, whose members spread over many of the districts of Eastern and Central Uttar Pradesh.

A. The Household

Many disputes arise in the household, primarily concerned with land, other property, marriage, and divorce. Theoretically, the eldest capable male is the head of the household, who, as part of his role, is responsible for maintaining the peace of the household. Often disputes arise in the household which are adjudicated at different levels in the Chamar organization and at times are adjudicated by persons outside the Chamar social organization.

B. The Khandan (Lineage)

Disputes that arise within the household are usually taken first to the leader of the khandan. Since the Khandan is localized in one part of the hamlet and since there is little that does not take place within earshot of the other households, the khandan leader is aware of the dispute from its inception. Minor quarrels can usually be settled by allowing the participants to vent their anger and then suggesting a simple compromise.

Many disputes arise among members of different households of the same khandan. Disputes are frequent over use of land in front of houses, the hamlet

the Asiatic Society of Bengal, N. S. 3, 1907, pp. 509-515; Maynard, op. cit. Census of India, 1911, Vol. V, Bengal, Bihar, and Orissa and Sikkim, Part I, Report by L. S. S. O'Malley, Calcutta, 1913; pp. 452-458; also Vol. XVI, Baroda, Part I, Report by Govindbhai H. Desai, Bombay, 1911, pp. 255-256.

well, property still held in common after partition, insults, suspicion of petty thefts, and the use of witchcraft. If a dispute cannot be settled easily by the khandan leader, the leader or one or both of the participants may ask the hamlet at large to hold a meeting (pancayat) to hear and settle the dispute. Hamlet meetings to settle disputes may be formal or informal. An informal meeting will include leaders of all the khandans in the Chamar hamlet, heads of the households who are available, and any interested persons in the hamlet. The meeting will assemble in a traditional spot, usually the open space near one of the hamlet wells. Everyone who attends will have considerable knowledge of the dispute in question and know and be affected by the chain of relations and disputes which lie behind it. The meeting is opened by the hamlet leader; he asks the party calling the meeting to explain the reason for doing so. Then each side states its case in a declamatory fashion, with no attempt at cross examination or rebuttal except to dismiss the whole story of the other side. The other people attending the meeting comment on the facts, either to support or deny the statements made, and may also comment upon human nature, the stresses of life, the evil of Thakurs, the disputatious nature of women, or general morality. There is no apparent systematic method of determining the facts of the situation. Probably all the listeners are aware of the facts. When questions of fact do arise, they usually pertain to actions which took place out of the hamlet or village. Throughout the meetings the khandan leaders or the hamlet leader take members of the contending parties aside to talk with them and urge them to compromise. If the dispute concerns an insult or a simple land or marriage question, it might be settled by the informal hamlet meeting or a series of hamlet meetings. If the dispute is complicated or if it entails direct infringement of caste regulations which could result in the outcasting of one or more of the participants in the dispute, the participants in the informal meeting ask for a formal meeting of the hamlet with the addition of outside leaders from the other Chamar hamlets, possibly some other low caste leader noted for his ability as a mediator, the Thakurs of the disputing Chamars. And if the case entails witchcraft, some noted divines and exorcists are summoned.

The procedure of the formal hamlet meeting is very similar to the informal one with the exception that the outside leaders are called upon for advisory opinions. As they are not as directly involved, they often ask direct questions of fact.

When divines and exorcists are present, they appeal to their spirits through rituals to get information about the witchcraft charges. If Thakurs are present, they usually take the lead in questioning and suggest formal solutions. As far as I could determine, there was little question of what the "law" was in disputes. Everyone knew what was appropriate behavior in marriage and inheritance. Many Chamars could make general statements as to what were rules of behavior, and then back up their statements with cases and decisions of meetings (pancayats). There was no recourse to a knowledge of sacred texts, law books, or current civil or criminal law. The law which the Chamars know is customary law, often at variance with aspects of traditional Hindu law.

C. Hamlet Councils

Disputes arising among members of different khandans in the hamlet are treated in much the same fashion as disputes within the khandan, with the excep-

tion that there will almost certainly be outside Chamar judges. In matters that come up for consideration before the hamlet council the question of outcasting is present from the beginning of the dispute, since disputes at this level most often entail caste regulations, such as non-fulfillment of the social and ceremonial obligation to invite a hamlet mate to a feast, irregularity in marriage, or disobeying a caste rule regarding occupational activities. Theoretically these questions could arise at the khandan level, but it is very rare that one khandan mate will charge a member of his own khandan with such a serious matter, and if he did, the charge would be discussed at least before the whole hamlet.

Let us look at the situation in which a hamlet mate has not invited another hamlet mate to a feast and ceremony which is given at one of the life cycle ceremonies. The general rule is that, when a household is celebrating a life cycle rite, all adult males from the khandan and at least one adult male, usually the head, from every other household in the hamlet is invited. An invitation requires attendance. If a feast is being held and one household is not invited, its members call for a hamlet meeting and ask for an explanation for the breach. If the explanation is not satisfactory, they demand that the offending household be outcaste.

When a Chamar family is outcaste, no other Chamar will allow its members to share the hukka (water-pipe)--symbol of caste solidarity. In extreme cases people will not allow an outcasted family to draw water from the hamlet well; they will not even give the outcasted family fire from their hearths; and ultimately, outcasting entails the inability to marry off children, since Chamar will take daughters from or give daughters to an outcaste household.

Outcasting among the Chamars is not a permanent condition. The most severe outcasting that I know of is twelve years, the penalty for incest. Usually a family is fined a certain amount of cash and charged to give one or two feasts. If the family promises to pay the fine and give the feasts within the stipulated period, its members will not be outcasted to the fullest extent (i. e., not being able to use the hamlet well or get fire). Usually they will not be invited to feasts or allowed to use the hukka until they fulfill the requirements of the fine, but ordinary social intercourse continues.

D. Village and Inter-Village

In Senapur a full meeting of the leaders and representatives of all the Chamar hamlets is rare. There is little likelihood for personal disputes to arise among the Chamars across hamlet lines, since they do not share land and property and, since, except in work situations, they do not interact much. There are meetings, which could be termed all-village meetings, to consider general rules of behavior; for example, thirty or more years ago the Chamars decided to stop taking cow dung out to manure their Thakurs' fields, since they felt this was too degrading. It is difficult to reconstruct how this was decided, but some informants said there was a general meeting on the question.

Inter-village meetings among the Chamars are not uncommon; the main impetus is to settle disputes about marriage and divorce. Typically, the

conjugal problem is a wife running off and her refusal to return to her husband's village, or a husband's refusal to support a wife. In cases of this sort, the aggrieved party will call upon his khandan, hamlet, or village leader to have a meeting with his counterpart in the other village. A meeting will be held, usually in the village of the accusing party or in some neutral spot. Leaders from both groups of Chamars will assemble, plus some neutral Chamar leaders or other low caste leaders, to hear the case. It is my impression that proceedings in these inter-village meetings are much more formal, with an attempt to present the evidence systematically. When a decision is reached entailing a penalty, enforcement is the responsibility of the leaders of the hamlet or village in which the penalized party dwells. The general sanction enforcing the ruling of the inter-village Chamar meeting is the threat to cut off marriage relations by the aggrieved group, and then to get other Chamar hamlets and villages with which they have relations to do the same, thereby in effect out-casting the whole village group of Chamars.

III. The Dispute Settlement Process among the Chamars

This description very much over-systematizes and simplifies the actual processes of intra-caste disputes among the Chamars. The distinctions between the types of meetings (pancayats) are not explicitly made by the Chamars, and as can be seen from my description, one type of meeting can easily flow into another type. In general, the processes of settlement are similar in all types of meetings and might be summarized as follows:

A. Leaders and Audience

The general rule is that the leaders of the units of the persons involved will act in some sense as mediators, since by social definition the position of each leader depends on his ability to function not only as a leader of one unit but to lead in the next larger unit and take a wider role and more active part in it; hence, he would endanger his role of leader in the wider circle if he were to push the claims of his immediate followers too much. In essence, I judge it is the role of the leader to bridge the gaps between the rings of the social "onion", by balancing between advocate of the rights of his immediate followers and the demands of the wider social group. All interested parties, whether they be leaders or directly concerned with the dispute, are free to attend meetings, to comment, and to take part in the proceedings. The people attending form the "public opinion", and part of the leader's function is to sense, as well as direct, "public opinion" as it develops at the meeting.

B. Talk and Time

Essentially, a dispute among the Chamars seems to get settled through talking it out. The act of talking seems to relieve some of the aggression built up in the dispute. No one is cut off, and a person can raise any issue or problem he wants. On several occasions I attended meetings in which what appeared to be completely irrelevant issues were discussed for hours. The Chamars do not expect to settle the dispute in any specified number of meetings. A meeting

will last three or four hours and then be adjourned for a week; meanwhile, mediators will talk to the parties in the dispute. The meeting will be reconvened, and there will be more talk. Eventually a "compromise" will be suggested, and even though it may be more favorable to one party, as long as it can be defined as a compromise in a rhetorical sense, both parties seem to be satisfied.

C. The Relevant Dispute

Very often a meeting will be held ostensibly to hear one dispute, and will people then discuss and adjudicate another dispute which lies behind the antagonism and comes to the surface as a side issue. They feel no necessity of "sticking to the point". The Chamars do not lead a segmented life in which behavior or situations can be compartmentalized easily, and they see no point in trying to decide matters only on the basis of an immediate situation.

D. The Personal Characteristics of the Disputants

The Chamars in their daily lives have clear ideas about the relative worth of their fellow Chamars. When it comes to settling a dispute, the Chamar sees no reason why he should not include his knowledge of the disputants in his evaluation of the dispute. Some men's promises are worth more than others, some are known to be quarrelsome, some are relatively rich, well-connected, or dependents of important Thakurs. Some come from honorable Chamar families, some are educated, some have travelled, some are loose morally, some are stupid, some lazy--all these personal characteristics are known, enter into the adjudicative process, and need not be made explicit.

Thus far we have described only two aspects of disputes and dispute settlement in a North Indian Village: the traditional organization and position of the Thakurs in the little kingdom of the late eighteenth century; and the process of intra-caste dispute settlement among the Chamars. The description dealt with the horizontal organization of the society and disputes arising in segments of this horizontal organization, but did not treat vertical organizations of the village and disputes which arise in this organization nor with the far-reaching social, economic, political, and legal changes which have affected the wider society of North India, the little kingdom, and the village.

IV. Inter-Caste Disputes

Central to the settlement of inter-caste disputes within the village is the role of the Thakurs. When the British established their rule in the lands of the Raja of Benaras at the end of the eighteenth century, they tried to maintain the status quo of the dominant caste relating to other castes and to the land, by recognizing the dominant caste as zemindar (landlord). In Dobhi Taluka, these were the Thakurs.

Castes other than the Thakurs in Dobhi Taluka were tenants and/or servants of the Thakurs. In pre-British times the servants (Chamars, Kahars,

Barais, and other low castes) were little better than slaves. James Thomason, a British civil servant in the early nineteenth century in upper India, described the relationship in the following terms:

They the Urzal neither have nor assert in general any rights, other than the will of the Zemindar. They take what land he gives them, and pay the utmost that they can, either in money or in kind. Besides their direct contribution to his rental, they render him many personal services. If Kuhars, they carry his Palankeen, merely receiving in return food to support them during the time. Other classes bring him wood, tend his cattle, or perform numerous other similar services for very inadequate remuneration. Under former Governments this power was no doubt recognized, and permitted. They were the predial slaves, who were beaten without mercy for misconduct, and were liable to be pursued, and brought back if they attempted to escape. Their state is now much improved. The power is now conventional.¹⁰

The Thakur, given his position as zemindar and his caste status, settled disputes which the caste meetings could not. At present the Thakurs are most often involved as mediators in disputes among low castes which involve questions of land and property, but sometimes they are involved in disputes which threaten the peace of the village, or which involve a particular Thakur's dependents and cause him to feel that the dispute is disrupting the dependent's work for the Thakur.

Usually, in a dispute in which a Thakur is taking a role, the disputants are called to his house, and he hears both sides. He may ask a low caste leader to attend and give advice on a particular point of "law", as customary law varies from caste to caste. The Thakur has considerable power as landlord to enforce his decision. Until fairly recently Thakurs beat low caste men with little fear of the consequences. One respected Chamar leader described a situation in which he was beaten by his Thakur:

I was plowing in my field when he came. My Thakur started to beat me with a lathi (a large bamboo club). I kept right on plowing. I told my Thakur that I did not strike him back because he was my Thakur, otherwise I would not stand to be beaten.

My grandfather was chaudhri leader of the sub-caste, my father was chaudhri, and I am chaudhri, so for three generations our word has carried weight, and I have never been insulted except by my Thakur. I was capable of taking revenge, but I thought BBS was my Thakur and therefore equal to my mother and father and he should not be insulted.

The Thakur could bring to bear the ultimate economic sanction of preventing dependent castes from cultivating the land, as theoretically, and until recently, actually, all dependent castes were tenants of the Thakurs.

In summary, one can say that the Thakurs had the economic, social, and political power to settle any dispute arising among the castes below them. The

10. Thomason, op. cit., p. 115.

question of a dispute between a Thakur and a low caste man rarely arose, because, as Thomason pointed out, the relationship was that of master and servant. A dispute could arise, but the only real recourse the servant had was to withdraw his services by fleeing and to seek the protection of some other dominant caste. There apparently was social pressure on a Thakur to treat his servants and tenants with a certain amount of *noblesse oblige*. This social pressure was exercised by other Thakurs, who had a well-developed idea of the treatment of their dependents. Before the twentieth century, the Thakurs saw to it that their dependents were fed, clothed, and housed, and the tenant knew that his Thakur would protect him in most crises.

V. Settlement of Disputes among Thakurs

Disputes among the Thakurs of the village were frequent, bitter, and often violent, both in the nineteenth and twentieth centuries. Older informants recounted incidents when Thakurs along with their dependents would fight other Thakurs, often involving bloodshed. These fights would often be over questions of land, but more frequently would arise over insults. Some Thakur families appear to have had traditional feuding relations, sometimes stretching over four or five generations. There were always several Thakur families in the village who were recognized as more powerful and important than others, and when a dispute arose, the disputants would try to enlist the aid of these powerful families.¹¹ It is important to note that a tremendous amount of time, energy, and money went into these Thakur disputes, but as divisive as they were, they were limited to the little kingdom. The Thakur council of twelve mentioned earlier provided a court of final adjudication for disputes. The process of settlement of disputes among the Thakurs was one of balancing of antagonisms and mediation and compromise, and the process described for the settling of intra-caste disputes among the Chamars is probably similar to the process of settlement of disputes among the Thakurs. The most important fact is that disputes ultimately were settled on a local basis within the little kingdom. The prestige and power system was largely bounded by the little kingdom. The Thakurs and other castes within it could always unite in the face of outside threats. The little kingdom was, however, far from self-sufficient; extensive networks involving marriage, ritual activity, economic activity, and military activity extended to the outside and related the little kingdom to wider networks, but questions of law and judicial procedure were concerns which affected only the little kingdom.

VI. The Changing Political, Legal, Economic, and Social Situation

Thus far I have been writing as if the village and little kingdom were unchanging isolated units, unaffected by outside events in North Indian society. Obviously this was not the case. I seriously doubt if the village of Senapur was at any time stable, since in the pre-British period warfare and famine must have had considerable effect on the social structure of the village and little kingdom. The description I have given is an abstraction and to some extent a caricature;

11. Opler, "Factors of Tradition...", *op. cit.*

however, since the establishment of British rule in the late eighteenth century, a number of developments have markedly changed the relationships within the village. The initial effect of the establishment of British rule was a stabilization of the society by guaranteeing the position of the Thakur as zemindar and by eliminating internal warfare. The British strengthened the position of the dominant caste by the extension of the cultivation of cash crops, notably indigo and sugar cane. The Thakurs as landlords derived the greatest benefit from the initial extension of the cash crop economy. In the nineteenth century the new sources of income were used by the Thakurs to strengthen their traditional way of life and their traditional position vis-a-vis low castes.

Opler and Singh¹² have outlined the forces that have affected Senapur from the beginning of the twentieth century to the present. The period has seen a large rise in population with the concomitant rise in pressure on land, coupled with a rise in agricultural prices, have made land a very valuable commodity. During this period, Senapur, through the building of railroads and the spread of "Western style" manufactured goods, has increasingly been drawn into an all-India market and ultimately a world market. Higher standards of education and the rise of urban occupations in commerce, industry, and administration have increased opportunities for employment outside the village and have exposed the villager to a wide range of urban contacts. The establishment of British and, later, Indian administrations has greatly weakened, if not destroyed, the importance of the little kingdom as a political-judicial unit. Land reform has altered the relationships among Thakurs and their dependents, and the nationalist struggle, democratic elections, and movements for social and economic uplift of the low castes have destroyed the moral base of the relationships of superordination-subordination among the Thakurs and their low caste dependents. Even this brief listing of some of the variables at work indicate the far-reaching changes taking place in Senapur and the little kingdom.

VII. Legal Changes

In 1795, after twenty years of indirect rule, the full legal and administrative structure of the East India Company was extended to Benaras. The company's goal was the full and regular collection of the land revenue, and as a step toward this goal, courts were established, the judges of whom were British employees of the company. The principle disputes in these new courts were questions of ownership of land and rates of revenue and rent.

In the area of personal law (marriage, divorce, inheritance, and adoption), the district courts administered Hindu law for Hindus and Muslim law for Muslims. The courts administered criminal codes written in the middle of the nineteenth century which were a mixture of British and Muslim criminal law, and acts and laws passed by the various provincial legislatures and governors. This latter group includes the very important topic of land law.

When the British established their courts in India, they were cognizant of substantive law, but did not think that the procedural law and the courts, as they found them in the late eighteenth century, were adequate. In fact, some of

12. Op. cit.

the early British administrators thought there was no court system other than that which the Mughals had imposed in North India. They ignored local indigenous adjudication procedures and modeled the process of adjudication in the courts on that of the British law courts of the period.

Almost from the establishment of British courts in India, it was apparent to the British that there were serious faults in these courts. It took years for disputes to be resolved, and there were too many appeals from lower courts. Use of forged documents and perjury in the courts became endemic.¹³ It was evident that courts did not settle disputes, but were used either as a form of gambling on the part of legal speculators who were landlords or merchants and who turned to the courts to wrest property from the "rightful" owners, or as a threat in a dispute. There is apparently no quicker way of driving an opponent into bankruptcy than to embroil him in a law suit. Most people would go to any length to avoid going to court. It is likely that most of the cases that went into courts were fabrications to cover the real disputes.¹⁴ The British were constantly concerned with reforming the courts. This concern entailed, in Uttar Pradesh, the shifting of the language of the court from Persian to Hindu, Urdu, and English, imposing severe penalties for bringing false cases, reform of the police, and establishment of local *panchayats* (village courts). But the flood of cases continues, and, at least based on my experience in 1952-1953 and on a brief revisit in 1958, there is no apparent abatement in this cycle of false cases and what an historian, Percival Spear, has termed the Indian peasants' "slot machine" attitude toward the courts.

It is my thesis that the present attitude of the Indian peasant was an inevitable consequence of the British decision to establish courts in India patterned on British procedural law. The way a people settles disputes is part of its social structure and value system. In attempting to introduce British procedural law into their Indian courts, the British confronted the Indians with a situation in which there was a direct clash of the values of the two societies; and the Indians in response thought only of manipulating the new situation and did not use the courts to settle disputes but only to further them.

The British thought that, by providing an honest judge and establishing firm rules of evidence and court procedure, the judge could determine the facts in the case and, with his knowledge of the law, hand down a just decision. But from the brief description of the process of adjudication of intra- and inter-caste disputes which I have given above several value conflicts are apparent.

A. Equality in the Eyes of the Law

Basic to British law is the idea of the equality of the individual before the law. North Indian society operates on the reverse value hypothesis: men are not

13. Percival Spear, *Twilight of the Mughals*, Cambridge, 1951; and India Office Library, *Home Miscellaneous Series*, Vols. 714, 715.

14. Robert Carstairs, *The Little World of an Indian District Officer*, London, 1912; Cecil Walsh, *Indian Village Crimes*, London, 1912; and Penderel Moon, *Strangers in India*, London, 1945.

born equal, and they have widely differing inherent worth. This theme or value is basic to the whole social structure and is expressed most clearly in the caste system. When Indians go into a court, they are supposed by definition to lose their outside statuses. It is not Thakurs and Chamars who are having a dispute, but a defendant and a complainant. The adversary system has developed to equalize the persons in court. To an Indian peasant this is an impossible situation to understand. The Chamar knows he is not equal to the Thakur. He may want to be equal, but he knows he is not. The Thakur cannot be convinced in any way that the Chamar is his equal, but the court acts as if the parties to the dispute were equal.

B. Status and Contract

As in the nineteenth century when Sir Henry Maine wrote about India, the Indian peasant society is one still largely dominated by values surrounding the concept of status. The landlord-tenant tie is not just a contractual relationship, as it is treated in law, but rather it is a hereditary relationship having important social and ceremonial concomitants which cannot be treated as contractual relations. Two Thakurs disputing over a piece of land are not only buyer and seller with a contractual tie, but in classificatory kinship terms are brothers or uncle and nephew. In Max Gluckman's terms, the Indian village is a multiplex society in which people are tied by a network of relationships, and some of these ties cannot be summarily cut by a decision of a court. People must continue to live and work together in the multiplex society. So decisions of the courts based on ideas of contract do not fit the value system and social structure of the Indian village.

C. The Importance of the Decision

Central to British law is the necessity of a decision, if a case comes to court. It appears that the indigenous adjudication procedure of India is geared to postponing a clear-cut decision as long as possible, the goal being to have the parties to the dispute compromise their differences in some way. If a compromise is not possible, the minimal requirement is to maintain at least the fiction of a compromise, especially in an intra-caste dispute. This fiction is not possible in the court, where the situation is defined in terms of winning or losing.

D. Settling the Case and Only the Case

The British legal system, as it has been adopted in India, rests on the idea that the courts will adjudicate the dispute that is presented to it. Very often, even in the caste meetings, the case which is ostensibly the crux of the dispute is only a minor expression of a long-standing antagonistic relationship between two families or groups. Often when I discussed a case with a villager, he would start out by discussing events and disputes of twenty years ago. A specific case does not stand alone, but is usually part of a string of disputes. The caste meeting can and does deal with the string of disputes, and over a period of time will try to mediate the basis of the dispute. The British court, given the nature of the adjudication process, can deal only with the specific case presented by the contending parties.

VIII. Summary

I have detailed the areas of change and conflict which brought about the situation in which law is used not for settling disputes, but for furthering them, and where the courts are looked upon as a place for harrassment or a place in which to gain revenge.

The Rajputs, their way of life, values, and power were dominant in the little kingdom. Everyone else was subservient to them within the little kingdom, and although the dominant Rajputs were in a position of subordination to the Mughal Government or, later, to the Raja of Benares, these superordinate political powers did not in any way challenge the Rajputs' control in their own little kingdom. The Rajput landlords settled all disputes arising among the castes below them that were not of an intra-caste nature, and through the functioning of their own Council were able to settle disputes among themselves.

British legislation regarding land revenue was the first assault, albeit unintentional, on the solidarity of the Rajputs, by making engagement for revenue with individual members of the lineage and recognizing individual interests in the land of the little kingdom, rather than assessing the taluka as a unit and considering the land to be held by the entire lineage--both practices in effect before British rule. As a result of the British policies, the Rajput saw that his economic position was not as tightly bound with that of the other members of the community as it had been. Although separate engagements were part of the land revenue settlements of 1789 and 1839-1942, they do not seem to have impinged strongly on the little kingdom until the settlement of 1880-1882, when in conjunction with a rapidly expanding role network and increasing urban experience, the Rajputs began to look outward for prestige and power.

Before the end of the nineteenth century, the little kingdom was an almost closed prestige system; prestige depended on the amount of land one inherited from his ancestors, the status of his family in relation to the founding ancestors, and the number of low caste followers that he could muster. When the Rajputs began to turn government employment, education, and business outside the little kingdom, a new source of wealth and prestige was introduced. A Thakur could now convert the money he had made as a police officer in the British administration to buying land, building a large house, marrying his daughter into a more prestigious clan; and in a generation's time, a family could move from a lowly position into one of great importance in the village and the local area. Election to a position on the district board enabled a Thakur to use his knowledge of the government and his acquaintanceship with government officials to better his position and to help his followers in the village. Education, in addition to opening up new opportunities which could be converted to higher status within the community, also resulted in a growing familiarity with law and the courts.

In addition to new sources of prestige and power which were in opposition to the principles on which the old prestige system was built, the expanded role network made the Thakur more aware of the possibilities of manipulation in the courts and what could be done through influence and the use of questionable practices.

The Rajputs have always had a highly developed sense of their own importance, honor, and position. Their traditional occupation was warfare and they have a highly developed martial ethic. With the coming of the British, outside warfare stopped; the basis of the solidarity of the group was cut away; they no longer had to cooperate from fear of outside invasion or subjugation; and with the changes in land tenure it became advantageous for individuals to break their ties with the group. This change led to increased feuding, competition for position, and attempts to ruin fellow Thakurs. In this new scramble for prestige, the courts provided an excellent battleground in which to carry out a fight against both their caste fellows and the lower castes. A wealthy Thakur who went to court looked forward to not just one quick case, but to a series of cases, appeals, adjournments, and counter appeals, through which a poorer competitor could be ruined. Since British procedure and justice appeared capricious to the Indians, someone with a bad case was as prone to go to court as someone with a good case. The standard was not the justice of his case, but his ability to outlast his opponents. It became a mark of pride among the Thakurs to outwit an opponent through the use of the courts and law, and the prestige of a family was tied to its success as a litigant and its ability to ruin its competitors in court.

AMERICA'S FUTURE ECONOMIC PROBLEMS

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A little more than one hundred years ago, John S. Mill confidently stated that all major economic problems had been solved and envisaged the early arrival of the static economy. A two-volume collection of papers, published by the Committee for Economic Development suggests once again that perhaps Mill was unduly optimistic.¹ These volumes contain ninety-nine answers to the question: "What is the most important economic problem to be faced by the United States in the next twenty years"? The results give an indication of the uncertainty that surrounds the economic horizon for even so developed and wealthy a nation as the United States.

The papers, limited to 2,000 words, are grouped into two volume. The first includes forty-eight of the invited essays, with that of Paul Douglas appended to the second volume. The authors of this volume make a distinguished roster. Most of them are American economists, and include six past presidents of the American Economic Association (J. M. Clark, Paul Douglas, Alvin Hansen, Frank Knight, Simon Kuznets, and Sumner Slichter). Among the economists from other lands are Colin Clark, Ralph Hawtrey, W. Arthur Lewis, and Lionel Robbins. Non-economists from both sides of the Atlantic are well represented (Henry Steel Commager, Julian S. Huxley, Jean Monnet, Lester B. Pearson, and Paul Henri Spaak, among others).

The second volume contains fifty prize-winning essays, selected from 1,238 entries. No mention is made of the criterion employed in the selection of the invited writers, nor the grounds for choosing the contest judges. Under these conditions an expert in designing sample polls might be loath to accept the views expressed as necessarily representing the consensus of the fraternity of economists, let alone of related social sciences. Nevertheless, the picture that emerges from these contributions is representative of the views being expressed in articles and books. Of course, had a similar contest been held twenty years ago, unemployment would probably have received the most attention. Ten years or so ago the hazards of reconversion and the danger of a deep depression might have loomed large. This indicates one of the perils of attempting to predict future developments in an area of social activity as dynamic as the economic system. However, unless economists are to be ready for the last crisis when the next one comes, efforts of this type are desirable if only to spell out current thinking on future trends.

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1. Committee for Economic Development, Problems of United States Economic Development, New York, Committee for Economic Development, 1958, 374+390 pp., \$2.50 per vol.

What emerges from the ninety-nine contributions? Of the invited papers, fifteen are concerned mainly with the place of the United States in the world economy, with the other thirty-four concentrating on issues that are mainly national in scope. The contest winners, on the other hand, divide at six and forty-four respectively. The composite picture formed by these essays is disturbing in many respects, though few of the writers are so pessimistic as to doubt the ability of the economy to avoid the assorted pitfalls that lie ahead. Let us examine some of the major topics more pertinent to economic development.

I

R. C. Cairncross' statement sets the general tone of the papers concerned with America's position in the world economy. This country plays so important a role in this sphere that whatever is done cannot help having a considerable impact throughout the world. The disparity of conditions between the nations with traditional economic systems and those within this country are such that envy and a desire to follow the same path, a sort of international demonstration effect, is widespread. The United States cannot ignore the aspirations of these countries without loss of potential markets, and lose eventually whatever influence and prestige it now enjoys (Vol. I, pp. 69-70).

Paul T. Homan observes: "The circumstances of the United States are such that in the economic sphere we are pulling further and further ahead of most other countries, and are taking our dividends increasingly in the form of trivialities. Many other countries are caught in an economic trap of poverty and ignorance so deep that there is only faint hope of escape. We have it in our power, with little sacrifice, to give them a fair fighting chance to improve their condition" (Vol. I, p. 24). Although Jean Monnet sees the day when America's economic dominance will end, because of such developments as the European Common Market and the growing upsurge of world industrial development (Vol. I, p. 34), the strong position of this nation is well worth noting. From 1950 to 1956 the value of American imports increased by 44 percent, while exports went up by 88 percent. Sir Douglas Copland, of Australia, is of the opinion that this trend can only be reversed by a rising flow of foreign investment and economic aid, a lowering of tariff barriers, and a satisfactory solution of the overhang of agricultural surplus products (Vol. I, p. 10).

This task cannot be left only to the United States, however. As Lester Pearson notes, one of the main bars to expansion of world trade is the unwillingness of many nations to rely upon such commerce for all of their needs (Vol. I, p. 41). This reluctance may be caused by still fresh memories of foreign domination in many cases, but economic nationalism abroad is not going to make it easier to sell a program of trade and aid to the American people.

Important as financial aid may be, it is not enough. John Jewkes brings this welcome note by stating that past growth of this country was not an accident. After examining the usual explanations (large area, extensive markets, abundance of natural resources, considerable expenditure on research and development, and large-scale production) and not finding them convincing, Jewkes submits his list. These items include the flexibility with which the American

economy operates, not only in terms of responses to material factors, but also within the structuring of social institutions that encourage the disposition to take risks and the ability to profit from mistakes. This resiliency is found to be in accord with the normal hazards of living in a world as potentially dangerous and insecure as that in which we live. In addition, the speed with which new ideas are examined and applied to practical ends is another major factor. Evidence of this is found in the quickness of manufacturing new products, even those originally developed by Europeans but first produced in commercial quantities by American industry. Finally, Jewkes refers to the widespread hostility to regulation and organization of human activity beyond a point of no return (Vol. I, pp. 259-266).

II

Insofar as the national economy is concerned, most of the contributors take future growth for granted. However, future economic development is expected to raise difficulties hitherto unknown. The further enlargement of the supply of goods and services is no longer as compelling as it once was. Instead, those areas of the nation that require help seem to be beyond the reach of the private sector. The poverty that still exists perhaps can be better solved by direct public contributions to raise health, education, and housing standards. But higher taxation and greater participation of government in the economy may harm the incentives that worked so well in the past.

Moreover, it may be necessary to modify the value system that promoted past economic growth. Jan Tinbergen is of the opinion that the declining marginal utility of additional personal income can be met by providing even more leisure time, although the vitality of the American renders this outlet less attractive as the work week shrinks even further. Another solution is the whetting of human wants with the accumulation of even more "fictitious needs". "There is a third way out, the assumption of new responsibilities, worth being met by the vitality of western society. These could be cultural and real social responsibilities inside the United States... and they could be responsibilities in the world at large" (Vol. I, p. 313). This, again, requires that the high value placed on individual responsibility be reduced in order to place greater emphasis on community-oriented needs; whether they be new TVA's, off-street parking and urban renewal, or aid to underdeveloped nations.

Under these circumstances, it would seem that "the evolution of standards of economic performance and conduct" consistent with new requirements remains one of the major problems of the future. During the Middle Ages this was done by rules established by the Church, state, and the guilds. The Age of Reason reconciled individual self-interest and social values by promoting laissez-faire. But unrestrained self-interest does not always result in a smoothly functioning economy (Gerhard Colm, Vol. I, pp. 244, 247). Om Prakash, of India, asks, does the United States face the dilemma of deciding whether to retain or abandon the free enterprise approach? Taking a historical outlook, Prakash argues that there have occurred in the past long-range swings between freedom and regimentation. After dominating men's minds for more than one hundred years, the ideal of individualism, implicit in the doctrine of laissez-faire, may be suffering an eclipse. Can individualism survive the

urgent pressure of underdeveloped areas to push economic growth, labor union unrest, rising military expenditures, increasing costs for new innovations, and the waste of inflation? If the free enterprise approach fails central planning will surely take over (Vol. II, pp. 104-105).

This concern for economic gain at almost any price has its shortcomings, however. Werner Levi sees human values threatened by this drive. Further specialization of work activity and increasing standardization of products will result in even greater uniformity of behavior and tastes. "Any attempts to control these trends toward de-humanization and de-individualization on a national level will be difficult because they are not inherent in the American economy alone" (Vol. II, p. 245). Social relations are being determined by economic activity to an ever-increasing degree. Much effort has been expended to increase material wealth, but less attention has been paid to the price paid for their production, or the reasons and purposes of their creation. How to reconcile the drive for economic progress without harming the maintenance of higher human values is Levi's candidate for the most difficult problem of the future (Vol. II, pp. 247-249).

Adjustments of this type may have already made their mark. Walter C. Neale observes that the desire to avoid economic risks, or to shift their incidence elsewhere, may undermine the sense of individual responsibility to the extent of harming efficiency (Vol. II, p. 265). Another contributor is of the opinion that the decline in the spirit of enterprise among American business leaders has already made deep inroads in the ability of the economy to continue to meet the problems that lie ahead. Lester S. Levy states that the more conservative "live and let live" attitude of business has sapped the aggressive risk taking that was so characteristic of the early entrepreneurs. This development is seen to flow from the growth of large-scale corporations and the rise of professional managers; the loss of prestige suffered by the business community since the 1930's; steeply progressive tax laws; and two decades of unparalleled prosperity. Levy wonders if these developments may not sap the ability of the nation to meet the needs of a rapidly growing population and satisfy the rising demands of unions for less work and more pay (Vol. II, p. 352).

III

Economic growth alone is not enough, however. It has become equally important to avoid the recurrence of periods of serious unemployment of men and plant capacity. This goal demands prompt and accurate changes of decision-making to conform to actual economic conditions. But whether such adjustments can be improved upon is questioned by many. For example, the structure of the economy is being extensively modified as the government and private groups introduce all manner of controls and regulations to cushion the impact of market forces for different interests. In addition, the consumer now enjoys a greater degree of freedom in deciding what sort of goods and services to buy, and whether to make the purchase of many of these products at once or postpone it for a later date. All of these changes automatically reduce the value of the old benchmarks and the existing store of past experience. These factors introduce new instabilities that may be very troublesome to deal with.

Steady growth, according to Paul C. Darling, requires that two conditions be met: "Total investment expenditure of a given current period must be uniquely related to the amount, and to what we may call the 'capacity-productivity ratio' of the expenditure of the preceding period...[and] the capacity-productivity ratio must constantly readjust itself, as the economy expands along its growth path, to the job requirements of the labor force" (Vol. II, p. 26, italics in original). Darling doubts that existing fiscal and monetary controls are adequate to avoid movements opposite to those required to restore balance. He explains this as due to a series of lags (recognition, administrative, and operational). The time that can elapse from the start of some distortion until policy is translated into specific action by the business community can be so great that relatively minor disturbances may be allowed the opportunity to become major issues (Vol. II, pp. 30-31). Of course, if the authorities are divided on what should be done, or the final decision is an unhappy compromise of different positions, the result can be disastrous. The situation can become similar to that of the battle that was lost because of the nail, providing that the chain of events is of a type that does not have self-correcting tendencies.

Assuming that future growth is certain, this raises the most important question of the day. If the economy cannot be adjusted to perform at optimum efficiency, what is it that will occur--depression or inflation? A correct answer to this question is of vital importance because of the need to have some valid frame of reference in making decisions. If the likelihood of depression is greatest, then it is necessary to have a predisposition to be sensitive to the threats of business contraction. On the other hand, if the needs of the economy are such that a serious depression is remote, then national policy-makers, consumers, businessmen, and labor are advised to adjust their thinking and behavior with this possibility in mind.

The danger of a major depression is stressed by few contributors. Geoffrey H. Moore is in this camp. He is mainly concerned with the deterioration of credit as a possible source of weakness, especially as it relates to the soundness of much of the current expansion of personal and state and local government credit. Although many safeguards have been introduced to protect banks and other lenders, as well as the debtors, Moore sees a serious deterioration in the quality of such loans by offsetting influences that may more than counterbalance these protective devices (Vol. II, p. 86). On the other hand, Joseph M. Gillman is of the opinion that the absence of new sources of investment to absorb the added savings made possible by technological advances may bring about serious unemployment if military expenditures should be cut. After rejecting capital exports (limited markets), and higher welfare expenditures (people are not willing to tax themselves for such items to the same degree as for defense needs), Gillman suggests another possible solution, the avoidance of excess savings. This could be achieved by correlating wages, productivity, prices, and profits in such a way as to prevent savings outstripping the potential investments needed for full employment (Vol. II, pp. 55, 56, 57).

Those who fear inflation on the other hand, are far more numerous. Will E. Mason discusses the why's of a shift from the dangers of underemployment to the present pressures of secular inflation. "The causes are found in a series of technological, institutional, psychological, political, and social developments which have combined since the depression of the 'thirties and the war of the

'forties to generate long-run inflationary pressures hitherto unknown" (Vol. II, pp. 154-155).

Gottfried Haberler examines one aspect of this change, the unwillingness to tolerate depressions and the availability of fiscal and monetary tools which he believes to be effective enough to avoid a sharp reduction of business activity. In addition, the strong pressure exerted by labor unions for wage increases in excess of the rise of general productivity is another factor adding to inflationary pressure. When efforts are made to halt inflation, the rise of unemployment immediately creates urgent pressures for a quick reversal of successful monetary policy (Vol. II, pp. 138-139). Neil Jacoby explains why stability of prices is desirable; it stimulates the incentives to save and supply the funds needed for capital formation. Should the American public take for granted the continual melting away of savings, wasteful habits may spread to the extent of drying up needed sources of new capital (Vol. I, p. 155). Some groups are fortunate enough to protect themselves against inflation, as is the case with labor unions that have "escalator" clauses to assure automatic wage increases for every given rise of the BLS consumer index. Because escalation cannot be applied universally, those who are outside its protective reach suffer a grave injustice. Moreover, individuals who are protected may become indifferent to the falling value of the dollar (Vol. I, p. 157). The post-war experience of continued inflation even during recessions points to the need for a general reevaluation of economic policy to determine what can be done to effectively slow down the inflationary push.

IV

Even if the economy can solve the various problems noted above, this does not mean all is solved. Rising output of goods and services requires that demand be stimulated to the extent of consuming that which is produced. Can a balanced expansion of demand and output be achieved with the existing market mechanism, or will it be necessary to introduce radical structural changes to avoid a breakdown of the economy? The age of abundance, as it might be called, promises to bring about considerable modification of distributive standards that have stood the economy so well in the past. Something akin to the fear of goods as expressed in the Middle Ages is to be seen in several of the papers.

The public sector may have to be expanded to include more substantive and difficult tasks. Simon Kuznets states, "A new scale of values may rank the doer lower than the thinker; the salesman lower than the language expert; the business man lower than the physicist and engineer; the corporation executive lower than the long term government administrator" (Vol. I, pp. 31-32). David Riesman, for example, wonders what will be done to find new outlets for the expected mounting supply of goods when satiation overwhelms the ingenuity of even research and development experts in creating new wants (Vol. I, p. 228). More specifically, Robert D. Entenberg observes that while personal income has been keeping pace with increasing production, personal consumption expenditures, as a proportion of GNP and personal income, was 14.1 percent and 10.2 percent less respectively in 1956 than in 1929 (Vol. II, p. 38). This rapid shrinkage is partly explained by the rapid growth of government expenditures. But once this source of rising demand is stabilized and adjusted to, what can take its place to provide new outlets for added productive capacity?

J. K. Galbraith points to the fallacy of averages in explaining the general

standard of living of the nation. Islands of residual poverty exist in spite of the rising national income per capita. These areas of relative backwardness cannot be passed as caused by personal shiftlessness or individual inadequacy. Similarly, slums, substandard schools, underpaid teachers, inability to deal with juvenile crime, and failure to solve the needs of expanding suburbs deserve more attention than they have received (Vol. I, p. 205).

V

In conclusion, although the papers included in these volumes stress different issues, not a few of which are mutually exclusive, there nevertheless exists a unifying thread that relates each point of view to the others. This can be summed up simply by noting that we are going through a period of rapid social and economic change. An extensive reappraisal is being made, especially with regards to the operation of the economy and its supporting web of social institutions. Property rights, the relationships between labor and management, and the part to be played by the government are being reappraised in terms of this rapidly changing situation. The condition that makes this process even more uncertain than usual is the rising social awareness of these problems. In addition, the threat of war and the urgent competition that is spreading in all phases of international relations to win the uncommitted nations does not make this situation any easier. The growing realization that this nation is seriously threatened by a foreign power for the first time since the turn of the last century perhaps adds to the stridency of some suggestions.

All in all, the operations of the American economy are no longer a matter of purely local interest. Whatever is done will have widespread repercussions abroad. Operating under these goldfish-bowl conditions does not alter the needs that must be met in the future, but only increases the stress under which necessary adjustments are carried out. The task facing the United States is obvious enough; it is to modify existing ways of thinking and doing things in a way that will retain those basic characteristics considered essential to the American way of life without, however, impairing the effectiveness of the economic system that supports the social and political order. That this task is likely to be difficult is apparent from a reading of the CED essays. But how far can the search for security be pressed without destroying the very thing that is being sought? To what extent can the shift from informal to contractual obligations between employer and employee be carried without creating crippling rigidities that may hinder the ability of the productive system to satisfy the impressive stream of ever-increasing demands? Furthermore, can the market mechanism meet these and the many other burdens, or will central planning of some sort be necessary? If this latter approach is utilized, will it really do a more effective and satisfactory job such as to justify the risks of this step?

These and many other similar questions come to mind when reading the contributions made by the authors. Even if the particular points of view expressed in these essays are not in agreement with those of the reader, the individual papers do serve the useful purpose of forcing a re-thinking of familiar ideas. This is probably the greatest compliment that can be made to CED for its efforts. It is difficult to go through these volumes without having a greater awareness of the difficulties that may lie ahead.

POPULATION GROWTH AND ECONOMIC DEVELOPMENT*

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The analysis of population growth in connection with economic development can be divided into at least three aspects: first, the determinants and consequences of the changing age distribution; second, the determinants and consequences of the changing size of the population; and third, the determinants and consequences of the changing quality of the population. The list is roughly in the order of difficulty of analysis. While it is far from easy to assess any of these elements of the problem, it is more difficult to do so with respect to the changing size of the population, and it is most difficult of all to analyze the quality aspect. The book under review by Coale and Hoover deals mostly with the consequences of the changing age distribution that is likely to ensue in the course of the economic development of a country--particularly, the economic development of India. The authors do attempt to say something about all of the aspects of population growth, but it is quite clear that their main and most definite results are in connection with potential age distributions and their consequences.

The idea of focusing on the analysis and consequences of potential age distributions that may be associated with India's development is an excellent strategy. When a problem is very complex, it is obviously sensible to emphasize those elements of the problem on which something can be said with a fairly high degree of assurance. It is probably easier to make reasonable assumptions and predictions with respect to changing age distributions than with respect to other demographic variables. In addition, when we consider that the population aspect of economic development is a highly controversial subject, and that its consideration is often charged with some emotion, then it would seem wise to pick that aspect on which one could be most neutral, and at the same time on which one could be most persuasive. This is not to suggest that the authors have chosen deliberately to emphasize the age distribution element of the problem for any of the reasons that I have stated. However, it is worth pointing out that the book does deal to a considerable extent with an aspect that lends itself easily to numerical analysis, and that reaches important conclusions on assumptions that seem, certainly to this reviewer, to be quite reasonable.

This book is the result of a well-conceived project that has been excep-

* Ansley J. Coale and Edgar M. Hoover, Population Growth and Economic Development in Low-Income Countries, Princeton, N. J.: Princeton University Press, 1958, pp. xxi + 389, \$8.50.

tionally well executed. There are really two books here bound between the same set of covers. One book deals with population problems and its relation to economic development, mostly with India; while Parts Three and Four, a section of more than two hundred pages, are devoted to factors in Indian economic development. Essentially, this part is an analysis of the Second Five Year Plan, as well as a discussion of the various factors that are likely to be important in the economic development of India in the next thirty years.

Coale and Hoover carry out their analysis through the technique of developing population projections based on alternate assumptions for the three decades, 1956 to 1986, beginning with the 1951 census data. They then examine the consequences of population growth for Indian development in terms of three alternate population projections. Through this means, they are able to say two types of things--first, to say something about the magnitude of the population problem as it is likely to develop in the three decades under consideration; and second, and most important, to compare the consequences of different potential patterns of population growth. Specifically, the two main patterns under comparison are, in the first case, a growth of population assuming declines in mortality but constant fertility, and second, at the other extreme, to consider the possible growth of population and its consequences assuming both declining mortality and declining fertility.

For some demographers an age distribution and some age-specific mortality and fertility rates engender an almost irresistible impulse to develop a series of population projections. From this point of view, the restraint of our authors is certainly praiseworthy. They have limited themselves to developing only three projections. In their own words, "the projections are based on their estimates of the most likely course of mortality and alternative assumptions about the course of fertility".

Coale and Hoover believe that Indian mortality will unquestionably decline within the next thirty years. They assume in their projections that it will drop from about the level of 31 per thousand in 1951 to that of about 14 per thousand by 1975, and that thereafter it will remain at roughly that level. This implies an improvement in the expectation of life at birth from 32 years to 52 years by 1986.

What will happen to fertility? This is the crucial and really difficult question. On the one hand there is the possibility, indeed the authors almost suggest that this is the most likely outcome, that fertility will remain more or less at its current level within the next three decades. This is their high fertility assumption. The low fertility assumption is that fertility begins a linear decline to half its current value from 1956 to 1981, and beyond 1981 it remains constant. The third, and intermediate assumption, is that the decline in fertility is postponed until 1966 at which time a more precipitous decline is assumed, one that again reaches one-half of the current level by 1981.

Let us look at the results. Beginning with the 1951 population of 357 million, India's population will grow according to the high fertility assumption to 775 million by 1986. Or, on the basis of the low fertility assumption, it will grow to 589 million. The intermediate fertility assumption implies a growth to 634 million by 1986. In any event, it seems clear that India's population will be exceedingly large at the end of the next three decades.

The assumption underlying much of the analysis is that the mortality rates in the Indian population will decline considerably in the near future. This is based on the belief that public health efforts which are cheap compared to a country's per capita income could and would be employed effectively in the near future. This last, of course, is not by any means a vague hypothesis, but rests on successful experience in a number of other countries, especially in Ceylon and Sardinia. For example, the use of DDT has reduced mortality from such diseases as malaria quite spectacularly within a very short time period. Indian planners place some stress on public health measures. Hence, it certainly seems reasonable to assume that mortality rates will decline. If anything, one may perhaps question the lower limit of the decline to only around 14 per thousand.

Indian statistics, and some Indian authorities, seem to suggest that there has already been an incipient fertility decline. However, Coale and Hoover take serious issue with this and point out, in some detail, that their analysis of age distributions and its implications does not suggest any fertility decline. Here it is important to inject the point that it is fertility decline rather than mortality decline that is likely to have the greatest impact on the age distribution of a population. This is due to the fact that mortality decline affects all age groups, while the immediate impact of fertility decline is to inject a smaller number of children into the population each year. Hence, its immediate impact in a short period must be on the youngest age groups. That is, we should observe distortions in the age distribution. If the evidence with respect to age distribution does not suggest such changes, then there is reason to believe that fertility declines have not taken place, as Coale and Hoover in fact claim.

One may argue whether fertility will decline in India in the near future. The authors suggest a number of reasons put forth by others why we might expect fertility decline, and then try to show why each of these reasons is not convincing. Indeed, one might say that they go to considerable pains to justify their constant high fertility assumption. For example, some have suggested that fertility is already low among upper socio-economic groups. While this is true, there seems to be little or no evidence that the low fertility pattern is spreading to the rest of the population. Or it has also been suggested that there is an upward trend in the age of marriage. While it is true that this might normally reduce fertility, the statistics also point to the fact that the upward trend has been exceedingly slight so as not to give much hope for fertility decline from that direction. In addition, there is the usual belief that economic development brings with it declining fertility--especially once the population becomes urbanized. As a generalization, this point is conceded by the authors, but the evidence does not suggest that the onset of fertility decline comes immediately upon attempts at development. Rather, in the usual case there is a considerable lag. Furthermore, it is not at all clear how far the transformation from an agrarian to an industrial organization will take place within the next three decades so as to bring about the type of fertility decline that we associate with industrialization in other countries. Thus it would seem that on almost every score there is considerable reason to doubt whether in the near future, especially in the next quarter century, India is likely to experience a significant fertility decline. Indeed, there is even some reason to expect an increase in fertility rates. For example, increased health might bring about an increase in

the male survivorship rate, hence a decrease in widows within the child-bearing age group.

To me, the most interesting aspects of the book are those that reveal the consequences of fertility decline versus non-fertility decline. Their analysis gives us a numerical evaluation of the importance of achieving fertility decline. This is especially striking with respect to the burden of dependency. For example, with high fertility the number of non-earning dependents per earner rises from 1.5 to 1.7 in 1986, whereas with declining fertility it falls from 1.5 to 1.24 by the end of 1986. The main significance of fertility change is in connection with the per capita consumption level. Of course, with high fertility a smaller total product must be divided among many more consumers than would be the case under low fertility. The authors' calculations indicate that per consumer income would attain a level of 40% higher by 1986 with reduced fertility than with continued high fertility. One striking element of the analysis is that this rough 40% figure seems to hold not only for India, but for Mexico and some other countries to which the analysis has been applied. The reason for this, of course, is that high fertility changes the age distribution so as to give a considerably different burden of dependency. Also, high fertility reduces, by increasing the amount of consumption that has to go towards child maintenance, the amount available for investment in a cumulative fashion, and hence decreases the excess of per capita income above the subsistence level out of which the additional investment funds could come.

The section devoted to India's development potentialities reveals some additional points closely related to the population question. For instance, the possibility of extending irrigated land, and of increasing output on the land, suggests that it is not unreasonable to expect that food supply could keep pace with the increase in population growth. As a consequence, the population growth predictions, even on the basis of the high fertility assumption, are certainly possible on that score. This is not the place to consider in detail the Coale and Hoover technique of estimating the economic consequences of different patterns of population growth. But suffice it to say that they do take into account a number of factors that should be taken into account and hence their results appear to be highly persuasive. For example, their estimates of income growth depend on a combination of anticipated rates of direct investment plus governmental outlay. Now, as they see it, such governmental outlays can increase productivity to some extent, and they attempt to take this into account. In addition, they consider the fact that governmental outlays of a welfare nature are of two kinds: first, there are outlays to take care of the current needs of the population, and second, there are outlays which involve the creation of new facilities to take care of the increased population. The outlays for new facilities are likely to be much larger per man than those for current needs, and in their calculations, Coale and Hoover take into account the consequences of such outlays made necessary by population growth.

The central result that they achieve is the fact that the differential economic outcomes associated with reduced fertility as against high fertility are remarkably persistent and stable with respect to a number of variations in the assumptions. For example, by making different assumptions, somewhat different results are achieved, but in all cases the outcome, for example, is that by

the end of the third decade the projected income per consumer in the reduced fertility case is higher by 38 to 48 percent than that for the constant high fertility case.

Although the significance of reducing fertility rates is clearly spelled out in this volume, there is very little in it to suggest how this could be brought about. Now, this should not be taken as a criticism of the book. There is no reason why authors should go beyond the task that they have set themselves.

Nevertheless, the connection between the investment pattern and fertility decline is a crucial issue. It is of interest to note that the emphasis of the Indian Five Year Plans seems to be in the opposite direction to the one that is likely to be conducive to fertility decline. For example, there is great emphasis on the extension of agriculture. In addition, there is considerable emphasis on developing small-scale production, in part, on the presumed, though unproven, grounds that the capital output ratio is smaller in small-scale enterprises. However, one may question the desirability of this approach. First, the evidence in India suggests clearly that large firms have much higher rates of reinvestment than small-scale units, and hence, large-scale enterprises are desirable from that point of view. Higher rates of reinvestment also imply the possibility of higher per capita incomes, and conceivably this may be a factor in inducing such changes in education, economic mobility, and social attitudes that foster fertility decline. In all of these matters, of course, we are in an area where we could hardly claim to speak with a great deal of assurance. However, it would seem to me that scholars and planners should take into account the population aspects of the problem, and should also take into account the possible consequences of the allocation of investment on bringing about fertility reduction.

There can be very little doubt that this is an excellent and exceedingly useful book. I would recommend it as "must reading" to all of those interested in development, and especially to those interested in the economic development of India.

PORTUGUESE ECONOMIC DEVELOPMENT

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Metropolitan Portugal, which includes Madeira and the Azores, crowds nearly nine million inhabitants into an area of less than 36,000 square miles. In contrast, an estimated twelve million people are dispersed over the 800,000 square miles of Portuguese territory in Africa and Asia. Portugal disputes with Spain the unwanted distinction of the lowest level of living in Western Europe, and the colonies hardly constitute an affluent society. Some of the problems of economic growth in an underdeveloped country which rules even less developed overseas possessions are carefully explored in a doctoral dissertation presented to the University of Basel by Ralph von Gersdorff.¹

Portugal's gross national product amounted to \$203 per capita in 1955; in Mocambique and Angola, the largest colonies, it was probably less than \$50. The current rate of gross domestic capital formation--about 14 percent of the gross national product--is the lowest in Europe. Gersdorff reports an increase in the gross national product of only two percent annually in 1950-1955. The O. E. E. C. accepts much higher estimates for recent years, e. g., 4.2 percent for 1956. Both agree on the urgency of measures to increase these rates of growth.

Gersdorff holds that more rapid development depends on the acceleration of capital formation. Capital imports are essential, but only a rise in private domestic savings can sustain the desired rate of growth. The stimulation of domestic capital formation is viewed as a problem of designing institutions to facilitate saving and of quickening individual responses to the opportunities for investment.

Portuguese economists, notably A. Ramos Pereira, consider Portugal an underdeveloped country *sui generis*. The Corporative State, under the long rule of Prime Minister Salazar, has rejected inflation and the sort of forced-draft economic development which has characterized some Latin American countries. Portugal has long enjoyed a stable exchange (the *esucdo* is one of the "hardest" currencies in Europe), a favorable balance of payments, and a balanced budget. Prices responded to universal inflation during World War II,

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1. Massnahmen zur Förderung der privaten Kapitalbildung im Portugiesischen Reich. (Staatswissenschaftliche Studien, Neue Folge, Band 33). Zurich: Polygraphischer Verlag, 1958. Pp. xvi. +265, 12.45 francs. Dr. von Gersdorff is presently on the staff of the Hamburgischen Welt-Wirtschafts-Archiv.

but between 1948 and 1957 consumer prices in Lisbon advanced only five percent. At the end of 1957 gold and foreign exchange reserves of the escudo area surpassed \$700 million, or about 50 percent of the deposits and note issue of the Bank of Portugal. Gersdorff criticizes the "extraordinary liquidity" induced by "Salazar's orthodox credit and financial legislation", while the O. E. E. C. insists that the nation's financial structure is sound enough "to risk energetic expansion".

Every sector of the Portuguese economy furnishes examples of the obstacles to "energetic expansion". As in most underdeveloped countries, productivity in agriculture is distressingly low. Gersdorff estimates that agriculture employs 47 percent of the labor force and contributes 25 percent of the national income. In 1957 output per worker was 9 contos (\$315) as compared with 21 contos (\$735) in industry. Rural areas furnish the bulk of emigration--Portugal's "safety valve" for one of the highest birth rates in Europe--but in the main those who leave the country to settle abroad, particularly in Brazil, are the robust and energetic, instead of the submarginal, workers. Agriculture was allotted 13.8 percent of the 9, 6 million contos budgeted for the Six-Year Development Plan (1953-1958), and some improvements have been realized in irrigation and cultivation; but low wages and chronic underemployment in farming have impeded mechanization. A similar dilemma faces fishing. Although this is an important part of the export economy, the modernization of equipment and methods proceeds slowly because of the fear of displacing labor. And fishermen are "the poorest of the poor" in Portugal.

Fish, wine, cork, and wolfram have traditionally provided the major share of Portugal's exports. While these commodities have often brought relatively high prices, creating ample foreign exchange for imports of capital goods, competition on world markets and the development of substitutes (e. g., for cork) have produced abrupt declines in export earnings. In the search for more diversified exports Portugal has captured some foreign markets for cotton textiles. But this industry is hampered by inefficient methods and the lack of modern machinery--factors which largely offset abundant raw materials (from the Portuguese African provinces) and cheap labor. (Textile workers earn an average of \$.80 per day!)

Foreign trade promotion is carried on by both private and state agencies, but Gersdorff thinks more should be done, probably by the government, to encourage and assist exporters. "The organization of the English export insurance could serve as a model for Portugal". Portugal should also seek international agreements for the stabilization of the prices of the raw materials exported by the motherland and its overseas provinces. One branch of the export economy, tourism, has grown satisfactorily through the combined efforts of state promotion and private capital. Transportation by air, rail, and highway has been improved and modern hotels have been built to accommodate foreign tourists, who find Portugal, after Spain, the cheapest country in Europe.

Officially, Portugal "considers private initiative the most fruitful instrument of progress and of the nation's economy". Unfortunately, private views of what undertakings are profitable and the government's concept of what it is necessary or desirable frequently differ. The gap has been closed by state enterprises,

which currently absorb 60 percent of new capital funds. Eventually, Gersdorff believes, private firms will take over some of the state enterprises or at least share in the ventures through mixed corporations. The shortage of competent entrepreneurs is only relative. Portugal may boast of some first-rate businessmen, but the "pre-capitalistic mentality of most Portuguese" tends to put professionals and civil servants higher up on the social ladder. The recruitment of able young men for the entrepreneurial ranks involves a wider adoption of the "industrial mentality" (*Industrie-Mentalität*). In the same vein the Seventh Report of O. E. E. C. deplores the insufficient "propensity of the private sector to invest in productive enterprises that would raise employment and real wages... The main task of official policy therefore must be to impart to the economy sufficient stimulus to obtain a higher rate of development".

Anticipating, perhaps that the "industrial mentality" will not take root overnight, the draftsmen of the new Six-Year Plan (1959-1964) have increased the projected outlays for industry. With German and Belgian help, Portugal will soon have steel mills to "save", through the reduction of imports, an estimated \$35 million annually in foreign exchange. In both Plans investment in electric power ranks high (38.1 percent of total expenditures under the first Plan), since the shortage of power has long been an obstacle to industrialization. Although consumption of electricity has increased at the rate of 12 percent per annum (1945-1955), per capita consumption of electricity is the lowest in Europe, excepting Greece and Turkey. The dearth of petroleum deposits in the Iberian peninsula forces both Spain and Portugal to import most of their oil, but recent explorations in Angola have proved sufficiently productive to justify the erection of a refinery in Luanda. Both Portugal and the African provinces have substantial deposits of uranium ores, the economical utilization of which might help to meet the power needs of future six-year plans.

Starting with the proposition that "the Portuguese is not a saver", Gersdorff explores numerous devices which might be introduced to encourage thrift, overcome the "demonstration effect", and make private enterprise a larger and more vigorous part of the total economy. The rudiments of the savings institutions typical of more advanced countries already exist in Portugal. Despite the low level of wages, Gersdorff supposes that even low-income families would save more if, for instance, savings accounts received not only interest but also "premium awards determined by lottery" and if the nominal amounts of savings deposits were adjusted to the cost of living. "Baby bonds" with a par value as low as 100 escudos (\$3.50) are recommended. The premium income of all types of insurance companies represents 2.2 percent of the net national income, and much of the reserves find their way into long-term investments. If the demand for life insurance has a positive income elasticity, any impetus to economic development would raise the amount of insurance in force far above the present average of \$15 per capita and correspondingly increase the invested reserves.

For potential investors of more ample means Gersdorff proposes several experiments based on the experience of other countries, e.g., investment clubs, mutual funds, and instalment purchase of corporate stocks. One may wonder whether the Portuguese securities market needs a Monthly Investment Plan, a scheme which in the most "capitalistic" country has only a few years' history.

In one important case employee stock ownership through a profit-sharing scheme has proved successful; but it strikes Gersdorff as curious that the Portuguese employer, who typically displays a paternalistic concern for his workers, generally spurns proposals which smack of co-partnership.

Well-to-do Portuguese, like the wealthy of other developing countries, have a high propensity to invest in real estate, which is not only socially acceptable but also comparatively safe, as long as population grows. But saving in the form of land and houses, Gersdorff believes, "is the worst method, if one wants to achieve the swiftest possible economic development of Portugal". Several years ago an E. C. A. mission in Portugal recommended the restriction of credit for construction, especially for high-rent housing, in order to channel funds into "economically more productive projects".

The earnings and dividend records of Portugal's major enterprises suggest that the marginal productivity of capital remains at a high level. Furthermore, a study of corporate earnings shows a rise in profits as a percentage of national income. While recognizing that this may favor capital accumulation, through the re-investment of earnings, Gersdorff has some misgivings about the perpetuation of extreme inequality in the distribution of income. "It is difficult to decide which is more important for Portugal, capital formation through an increase in entrepreneurial income or the long overdue raising of the much too low wages". There is no question about the urgency of increasing labor productivity, and the first Six-Year Plan earmarked 3.8 percent of the outlays for technical schools and training courses. Gersdorff approves of the adjustments of wage rates to gains in efficiency but suggests that a part of the gain from higher labor productivity might be channeled into capital formation, perhaps through forced saving.

Discussion of measures to promote economic development cannot neglect what Lewis calls the "will to economize". If "the greatest growth occurs in societies where men have an eye to the economic chance, and are willing to stir themselves to seize it",² Portugal hardly promises soon to be in the forefront of rapidly developing countries. Officially, Portugal is dedicated to providing the people with an increasing flow of goods and services, but the Corporative state does not recognize this as necessarily its most important obligation. "For Salazar", Gersdorff reminds us, "material progress is admissible only if it serves as a foundation for culture, a nobler life, a higher civilization". By way of further explanation of somewhat elusive concepts, Salazar has declared that "the nation can create conditions of material prosperity, linked to the development of wealth and the satisfaction of individual or collective needs. We are far from believing, however, that for nations or for individuals the satisfaction of more numerous wants adds to happiness". Gersdorff finds "Portugal today... still an idyllic little country" (author's italics). "Despite their poverty the Portuguese appear to have more joy in living (*Lebensfreude*) than, for instance, the rich Swiss". It would be unfair to conclude that he supposes the Swiss would be happier if poorer, or that the Portuguese would surely be unhappy if they were as well off as the Swiss. As long as the correlation of happiness with material

2. W. A. Lewis, The Theory of Economic Growth, London, 1955, p. 23.

possessions lacks an acceptable statistical base, it will be easy for those who falter in the quest for material progress to argue that they have been more concerned with preserving spiritual values.

Any estimate of the prospects for economic growth in the Portuguese Empire may fall wide of the mark if political factors are ignored. Gersdorff seems to feel that the present government is secure--that the "Salazar regime" will outlast its creator and the empire remain intact. Only ignorance, he contends, would lead one to the error of comparing Portugal with Mussolini's Italy or Hitler's Germany. To many outsiders the elaborate structure of employers' guilds and workers' associations, controlled by an equally elaborate superstructure of government boards, is likely to appear cumbersome, inefficient, and inflexible. One might also harbor a doubt about the permanency of the "principle of the Portuguese Corporative System", which is "not only economic, as one might suppose, but also has the objective of uniting into the system gradually all the scientific, cultural, literary, educational and welfare organizations, institutes, and corporations".

The Iberian peninsula presents the curious spectacle of two ageing dictators who, so far as the outside world knows, have not provided for their succession in such a way as to guarantee the continuance of their totalitarian systems. May they not, in fact, outlive the years which make their claims to be saviors of the country seem plausible--and the search for new saviors protracted and painful?

Gersdorff makes it clear in his Foreword that "for the most part" he has studied the Portuguese economy "without theoretical analysis". Lack of space precluded anything except an occasional consideration of a theoretical issue. But the attempt to describe so fully so many aspects of the national economy, to say nothing of long and often irrelevant digressions on institutions in other countries, has nevertheless resulted in a lengthy dissertation. Apart from the neglect of theory, some questions may be raised about the choice of data reproduced in great detail. Surely, few readers will stop to compare the cost of room and board in first-class hotels and pensions. Many, on the other hand, might appreciate a number of statistical time series, such as wages and prices. There is a great deal on social security and the insurance business, but practically nothing on morbidity, mortality, and longevity.

In the search for measures to promote capital formation Gersdorff has traveled, literally and figuratively, over a wide expanse of the Portuguese imperial economy. Not the least of the many by-products of this journey are abundant statistics and detailed descriptions of institutions, agencies, firms, and associations related to economic life in Portugal and the provinces. The usefulness of the work as a compendium of Portuguese economic information is greatly enhanced by a 31-page bibliography and a good subject index.

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